1 1989

FLOOD INSURANCE STUDY

WAYNE COUNTY, OHIO AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
APPLE CREEK, VILLAGE OF	390642
BURBANK, VILLAGE OF	390753
CRESTON, VILLAGE OF	390575
FREDERICKSBURG, VILLAGE OF	390576
ORRVILLE, CITY OF	390577
SHREVE, VILLAGE OF	390891
SMITHVILLE, VILLAGE OF	390629
WEST SALEM, VILLAGE OF	390668
WOOSTER, CITY OF	390579
UNINCORPORATED AREAS	390574

MAY 17, 1989

Federal Emergency Management Agency

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

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Flood Insurance Rate Map

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FLOOD INSURANCE STUDY

WAYNE COUNTY, OHIO
AND INCORPORATED AREAS

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study investigates the existence and severity of flood hazards in the geographic area of Wayne County, Ohio, including the Cities of Orrville and Wooster; the Villages of Apple Creek, Burbank, Creston, Fredericksburg, Shreve, Smithville, and West Salem; and the Unincorporated Areas of Wayne County (hereinafter referred to collectively as Wayne County), and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood risk data for various areas of the community that will be used to establish actuarial flood insurance rates and assist the community in its efforts to promote sound floodplain management. Minimum floodplain management requirements for participation in the National Flood Insurance Program are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

This Flood Insurance Study revises and supersedes previous Flood Insurance Rate Maps for the Villages of Fredericksburg, Smithville, and West Salem, Ohio, and the City of Orrville, Ohio; and a Flood Insurance Study for the City of Wooster, Ohio (References 1-5). This information will be used by the communities to update existing floodplain regulations as part of the regular phase of the National Flood Insurance Program. The information will also be used by local and regional planners to further promote sound land use and floodplain development.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence and the state (or other jurisdictional agency) will be able to explain them.

This Flood Insurance Study was prepared by compiling existing hydrologic and hydraulic technical and scientific data prepared by the Federal Emergency Management Agency (FEMA) for purposes of the National Flood Insurance Program and by other organizations for purposes other than the National Flood Insurance Program. The data were identified as the best available at the time of compilation of this Flood Insurance Study and should depict the general conditions of the flooding sources with relative accuracy. FEMA performed a cursory review and accepted the data as valid for purposes of this Flood Insurance Study and the National Flood Insurance Program. However, if better information is known to exist or has been developed since the date of this report, the information should be immediately forwarded to the Natural and Technological Hazards Division, FEMA, Chicago, Illinois, for consideration for revision of this study.

1.2 Authority and Acknowledgments

The sources of authority for this Flood Insurance Study are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The hydrologic and hydraulic analyses for this study were obtained from a U.S. Soil Conservation Service (SCS) report titled "Killbuck Creek Flood Hazard Study, Wayne County, Ohio" (Reference 6) and the Flood Insurance Studies for the Cities of Wooster and Rittman (References 5 and 7). Additional information was obtained from the Flood Insurance Rate Maps for the Villages of Fredericksburg, Smithville, West Salem, and Clinton (References 1-3 and 8) and the City of Orrville (Reference 4).

1.3 Coordination

On May 3, 1988, the results of this Flood Insurance Study were reviewed and accepted at a final coordination meeting attended by representatives of the community and FEMA.

2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance Study covers the geographic area of Wayne County, Ohio. The area of study is shown on the Vicinity Map (Figure 1).

The areas studied by detailed methods were selected based on the extent and validity of available existing hydrologic and hydraulic data.

Flooding caused by overflow of Killbuck Creek, Apple Creek, Cedar Run, Little Killbuck Creek, Chippewa Creek, Little Chippewa Creek, the River Styx, Tommy Run, Rathburn Run, Christmas Run, Little Apple Creek 1, Little Apple Creek 2, Clear Creek, Synder Run, and Landis Ditch was studied in detail.

Areas having low development potential or minimal flood hazards were previously studied using approximate analyses. The results were shown on the Flood Hazard Boundary Map for Wayne County, Ohio (Reference 9) and are incorporated into this Flood Insurance Study.

2.2 Community Description

Wayne County is in north-central Ohio and has a total land area of 557 square miles. Wayne County is bordered by Ashland County, Ohio, on the west; Holmes County, Ohio, on the south; Stark and Summit Counties and the City of Clinton, Ohio, on the east; and Summit and Medina Counties, Ohio, on the north. Wayne County is served by U.S. Routes 71, 30, and 250; State Routes 3, 21, 57, 83, 94, 95, 179, 226, 241, 301, 302, 539, 565, 585, and 604; the Norfolk Southern Railway, the CSX railroad, and Conrail. The 1980 population of Wayne County was reported to be 97,408 (Reference 10).

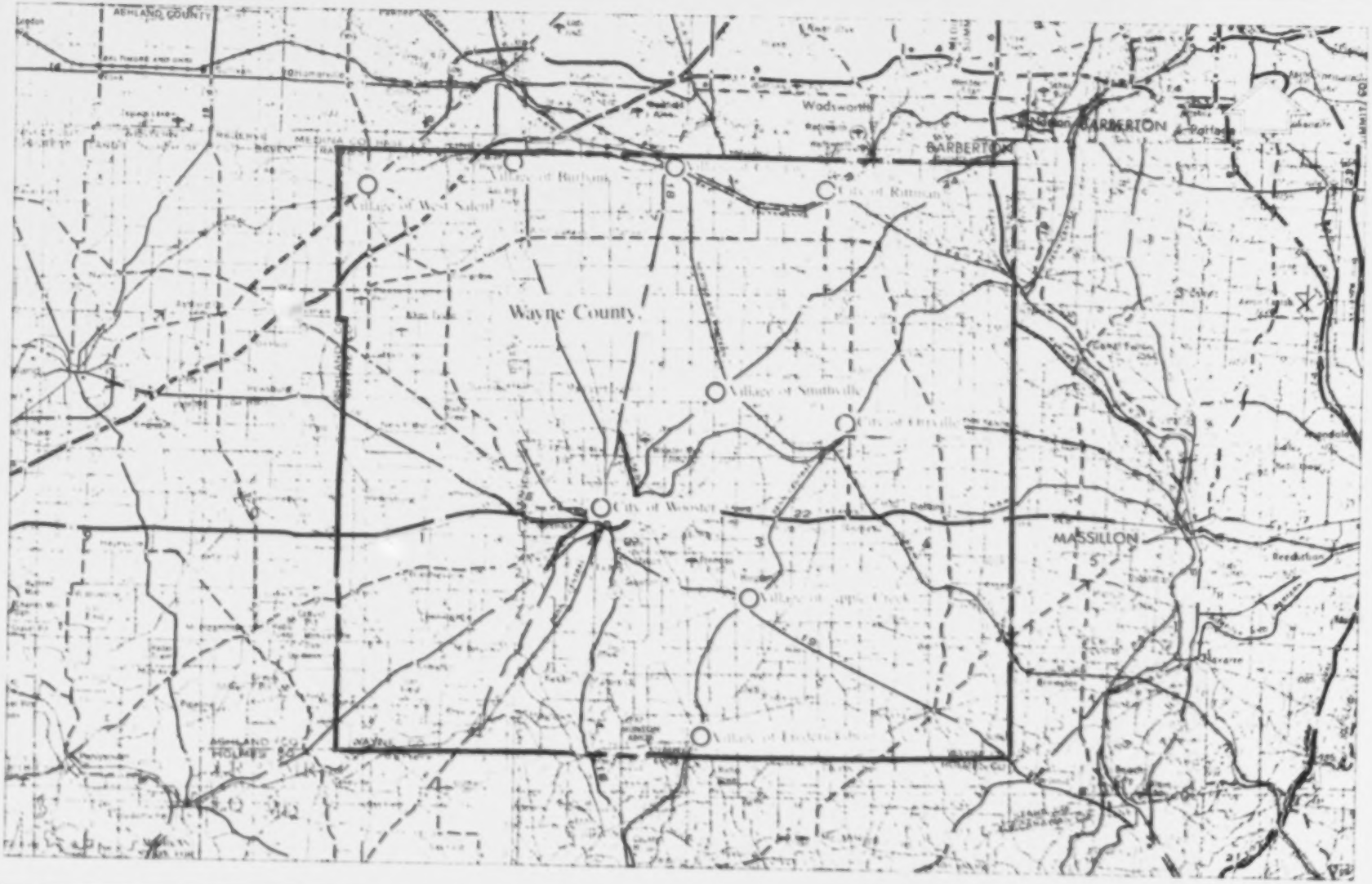


FIGURE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

WAYNE COUNTY, OH
AND INCORPORATED AREAS

APPROXIMATE SCALE

VICINITY MAP

The soils of the area were formed from a wide variety of parent materials and have a wide range of slope, texture, and drainage properties. The soils of the uplands include Canfield, Wooster, Riddles, Rittman, Wadsworth, Bennington, and Cardington series. They are formed in loamy glacial till on nearly level to steep slopes. Soil drainage ranges from somewhat poorly drained to well drained. Berks and Mechanicsburg soils have formed on very steep slopes of the uplands in bedrock residium. There is a wide variety of soils formed on floodplains and stream terraces. The flood-prone soils include Melvin, Euclid, and Orrville series. They are nearly level, poorly drained, deep soils formed in silty and loamy alluvium.

The climate of the area is characterized by wide seasonal ranges in temperature and precipitation. Mean monthly temperatures range from 27.3 degrees Fahrenheit (°F) in January to 71.6°F in July. On the average there are five days when morning temperatures fall below 0°F and twelve days when maximum temperatures exceed 90°F. The average annual precipitation is 37.0 inches, 58 percent of which falls between April and September. Precipitation is greatest during May, June, and July when thunderstorms are most frequent. The mean annual snowfall is 32.9 inches, with one inch or more of snow on the ground an average of 24 days per year (Reference 11). Development within the floodplains of Killbuck and Apple Creeks around Wooster is related to the oil and gas industries. Residential development has been primarily associated with the influx of mobile homes in the Apple Creek floodplain.

2.3 Principal Flood Problems

Between 7:30 and 8:30 p.m. on July 4, 1969, a line of thunderstorms began moving southward across the Lake Erie shoreline from Toledo to Conneaut, Ohio, with heavy rains and wind gusts of 100 miles per hour. The area of atmospheric instability remained stationary over northern Ohio for almost eight hours. The storm was recognized as the most intense and widespread summer storm ever recorded in Ohio and resulted in the maximum flood along Killbuck Creek. Rainfall in excess of 4 inches over a 6,000-square-mile area in north-central Ohio resulted in a maximum discharge of 47,500 cubic feet per second (cfs) at the U.S. Geological Survey (USGS) stream gage on Killbuck Creek. The maximum flood discharge previously recorded at this location was 28,800 cfs in 1935 (Reference 12).

As a result of the heavy rainfall near Wooster, much of the area remained paralyzed for more than 48 hours. Because of bridge damage and road washouts, virtually every road leading to the area was closed. Forty-one deaths were attributed to the storm, 21 of which occurred in Wayne and Holmes Counties. A flood damage survey was conducted by the U.S. Army Corps of Engineers along Killbuck Creek from Millersburg, Ohio, through the flooded areas of Wooster. In this area, direct damage caused by the July 1969 flood totaled $6,208,000. The flood exceeded the 500-year frequency event.

Severe flooding has occurred several times since the 1969 flood. On portions of Apple Creek, floods in July 1977 and September 1979 equalled or exceeded the 100-year flood elevation.

2.4 Flood Protection Measures

On June 15, 1977, a resolution was enacted by the Wayne County Commissioners to establish a floodplain review permit system and to outline the procedures and criteria for the system. The resolution required that local cities and villages administer their own floodplain regulation. In 1980, the resolution was amended so that the County Planning Office now administers floodplain regulations. In addition, other county offices cooperate with the Planning Office to ensure that the construction of septic systems, buildings, ponds, and bridges complies with floodplain regulations.

Presently, Wooster has not adopted floodplain regulations. However, under the Wooster Building Code, the chief building official may require that a structure be designed to resist or overcome anticipated flood conditions.

3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that is expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10-, 2-, 1-, and 0.2-percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long-term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1-percent chance of annual exceedence) in any 50-year period is approximately 40 percent (4 in 10), and, for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for each riverine flooding source studied in detail affecting the community.

Flood discharges were established by valley and structure flood routings computed using the SCS watershed computer model (Reference 13). This program uses the convex method for stream and valley flood routing. The model was calibrated using precipitation and stream discharge data from the July 1969 storm.

Peak discharge-drainage area relationships for the 10-, 50-, 100-, and 500-year floods of each flooding source studied in detail in the community are shown in Table 1.

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals.

All cross sections were obtained by field survey.

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles and on the Flood Insurance Rate Map.

Roughness coefficients (Manning's "n") were selected based on field observation and engineering judgment. The channel and overbank "n" values for streams studied by detailed methods are listed below.

STREAM NAME	MANNING'S "n"	
	Channel	Overbanks
Killbuck Creek	0.031 - 0.051	0.060 - 0.130
Apple Creek	0.030 - 0.042	0.050 - 0.110
Little Apple Creek 1	0.034 - 0.046	0.060 - 0.100
Little Apple Creek 2	0.030 - 0.042	0.050 - 0.110
Little Killbuck Creek	0.035 - 0.043	0.080 - 0.095
Clear Creek	0.032 - 0.045	0.060 - 0.100
Cedar Run	0.035 - 0.047	0.0[illegible] - 0.090
Rathburn Run	0.030 - 0.044	0.[illegible] - 0.090

Water-surface elevations of floods of the selected recurrence intervals were computed using the SCS WSP-2 step-backwater computer program (Reference 14). Computed profiles were compared to high-water marks and found to agree closely. The floodway width was computed using the SCS TR-64 computer program (Reference 15).

Flood profiles were drawn showing the computed water-surface elevations for floods of the selected recurrence intervals. In cases where the 50- and 100-year flood elevations are close together, due to limitations of the profile scale, only the 100-year profile has been shown.

The hydraulic analyses for this study are based on the effects of unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

TABLE 1 - SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (SQ MILES)	PEAK DISCHARGE (CFS) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
KILLBUCK CREEK about 1,000 feet upstream of Valley Road	246.4	7,810	12,180	12,950	14,550
APPLE CREEK about 500 feet upstream of County Route 3A	52	5,950	9,010	9,690	11,080
LITTLE APPLE CREEK 1 about 1,700 feet upstream of Portage Road	13	1,800	2,740	2,940	3,350
LITTLE APPLE CREEK 2 just downstream of U.S. Route 250	N/A	1,470	2,190	2,330	2,630
LITTLE KILLBUCK CREEK about 1,500 feet upstream of State Route 302	21.1	3,100	4,720	5,060	5,720
CLEAR CREEK just upstream of Township Road 192	11.1	2,050	3,100	3,320	3,750
CEDAR RUN about 1,100 feet downstream of Cedar Valley Road	5.9	2,770	4,260	4,560	5,190

TABLE 1 - SUMMARY OF DISCHARGES (Continued)

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (SQ MILES)	PEAK DISCHARGE (CFS) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
RATHBURN RUN					
about 600 feet upstream of Township Road 35	6.4	3,010	4,590	4,910	5,560
CHIPPEWA CREEK					
just upstream of confluence of the River Styx	113.9	3,850	7,250	9,960	25,500
just upstream of confluence of Tommy Run	75.1	2,500	5,280	7,400	17,450
TOMMY RUN					
at mouth	7.19	1,100	2,220	2,880	5,200
RIVER STYX					
at mouth	28.55	2,000	4,730	6,950	14,300
just upstream of confluence of Landis Ditch	23.29	1,830	4,420	6,100	12,800
LANDIS DITCH					
at mouth	3.25	590	1,250	1,640	3,020

All elevations are referenced to the National Geodetic Vertical Datum of 1929 (NGVD). Elevation reference marks used in this study are shown on the map and described in the exhibit labeled Elevation Reference Marks.

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The National Flood Insurance Program encourages State and local governments to adopt sound floodplain management programs. Therefore, each Flood Insurance Study provides 100-year flood elevations and delineations of the 100- and 500-year floodplain boundaries and 100-year floodway to assist communities in developing floodplain management measures.

4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent annual chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent annual chance (500-year) flood is employed to indicate additional areas of flood risk in the community. For each stream studied in detail, the 100- and 500-year floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using topographic maps at a scale of 1:24000 with contour intervals of 10 and 20 feet (References 16 and 17).

The 100- and 500-year floodplain boundaries are shown on the Flood Insurance Rate Map. On this map, the 100-year floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A, AE, AH, AO, A99, V, and VE) and the 500-year floodplain boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 100- and 500-year floodplain boundaries are close together, only the 100-year floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

For the streams studied by approximate methods, only the 100-year floodplain boundary was delineated using the Flood Hazard Boundary Maps for Wayne County and the Villages of Apple Creek, Burbank, and Creston, Ohio (References 9 and 18-20); the Flood Insurance Rate Maps for the Villages of Fredericksburg, Smithville, and West Salem and the City of Orrville, Ohio (References 1-4); the Flood Insurance Studies for the Cities of Wooster and Rittman, Ohio (References 5 and 7); and the SCS "Killbuck Creek Flood Hazard Study, Wayne County, Ohio" (Reference 6).

4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces the flood-carrying capacity, increases the flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the National Flood Insurance Program, a floodway is used as a

tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 100-year floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 100-year flood can be carried without substantial increases in flood heights. Minimum Federal standards limit such increases to 1.0 foot, provided that hazardous velocities are not produced. The floodways in this study are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway studies.

The floodways presented in this study were computed for certain stream segments on the basis of equal conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. The results of the floodway computations are tabulated for selected cross sections and are shown in Table 2, Floodway Data. The computed floodways are shown on the Flood Insurance Rate Map. In cases where the floodway and the 100-year floodplain boundaries are either close together or collinear, only the floodway boundary is shown. Portions of the floodways for Killbuck Creek and Little Killbuck Creek lie outside the county boundary.

The area between the floodway and the 100-year floodplain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the water-surface elevation of the 100-year flood more than 1.0-foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 2.

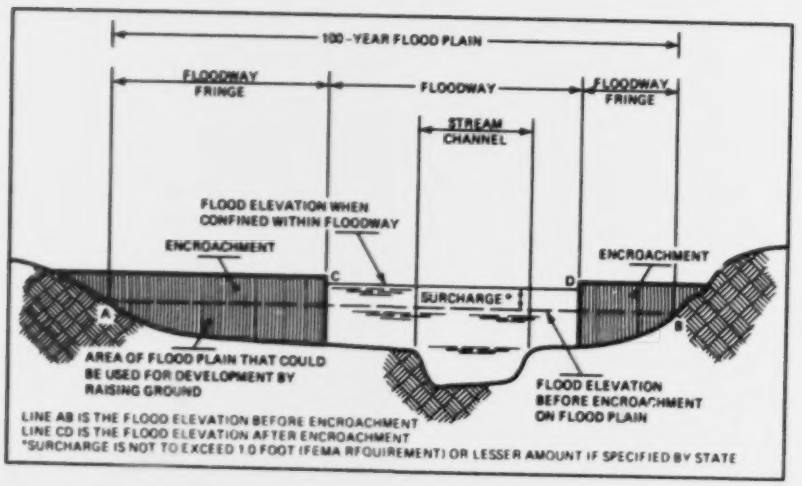

100-YEAR FLOOD PLAIN
FLOODWAY FRINGE
FLOODWAY
FLOODWAY FRINGE
STREAM CHANNEL
FLOOD ELEVATION WHEN CONFINED WITHIN FLOODWAY
ENCROACHMENT
ENCROACHMENT
C
D
SURCHARGE *
A
B
AREA OF FLOOD PLAIN THAT COULD BE USED FOR DEVELOPMENT BY RAISING GROUND
FLOOD ELEVATION BEFORE ENCROACHMENT ON FLOOD PLAIN
LINE AB IS THE FLOOD ELEVATION BEFORE ENCROACHMENT
LINE CD IS THE FLOOD ELEVATION AFTER ENCROACHMENT
*SURCHARGE IS NOT TO EXCEED 1.0 FOOT (FEMA REQUIREMENT) OR LESSER AMOUNT IF SPECIFIED BY STATE

FIGURE 2 - Floodway Schematic

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
RIVER STYX								
A	0.574	477	1426	4.9	956.8	953.6[2]	954.1	0.5
B	0.727	111	733	9.5	956.8	954.1[2]	954.9	0.8
C	0.746	63	556	12.5	956.8	954.1[2]	954.6	0.5
D	0.782	80	789	8.8	956.8	956.0[2]	956.6	0.6
E	0.826	105	865	8.0	956.8	956.8[2]	957.4	0.6
F	1.041	99	807	8.6	958.7	958.7	959.2	0.5
G	1.184	105	1177	5.9	960.5	960.5	960.7	0.2
H	1.248	220	1929	3.6	961.2	961.2	961.3	0.1
I	1.411	350	2891	2.1	961.3	961.3	961.7	0.4
J	1.510	450	3739	1.6	961.3	961.3	961.8	0.5
K	1.629	270	2040	3.0	961.3	961.3	961.8	0.5
L	1.699	230	1872	3.3	961.8	961.8	962.1	0.3
M	1.751	210	1710	3.6	961.8	961.8	962.1	0.3
N	1.900	310	2381	2.6	961.8	961.8	962.6	0.8
O	2.079	500	3643	1.7	962.0	962.0	963.0	1.0
P	2.259	730	4608	1.3	962.1	962.1	963.1	1.0

[1]MILES ABOVE MOUTH
[2]ELEVATIONS WITHOUT CONSIDERING BACKWATER EFFECT FROM CHIPPEWA CREEK

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

WAYNE COUNTY, OH AND INCORPORATED AREAS

FLOODWAY DATA

RIVER STYX

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
KILLBUCK CREEK								
A	10,200	2744	14,284	0.9	849.9	849.9	850.9	1.0
B	16,250	2790	14,302	0.9	853.3	853.3	854.3	1.0
C	19,800	1577	8973	1.4	855.5	855.5	856.5	1.0
D	21,150	481	3039	2.2	857.5	857.5	858.5	1.0
E	22,450	1483	10,241	0.6	857.8	857.8	858.8	1.0
F	24,900	842	5933	1.1	859.4	859.4	860.4	1.0
G	28,000	1859	17,053	0.4	861.4	861.4	862.4	1.0
H	31,400	1758	11,384	0.5	861.6	861.6	862.6	1.0
I	35,300	930	4691	1.2	862.6	862.6	863.6	1.0
J	39,450	678	3269	1.1	863.3	863.3	864.3	1.0
K	40,600	1140	4426	0.8	864.5	864.5	865.5	1.0
L	45,100	1156	5194	0.7	866.1	866.1	867.1	1.0
M	47,750	1171	5183	1.0	867.2	867.2	868.2	1.0
N	51,150	466	2292	2.9	871.2	871.2	872.2	1.0
O	52,900	453	2661	2.5	873.5	873.5	874.5	1.0
P	55,400	506	2670	1.3	874.7	874.7	875.7	1.0
Q	61,500	89	886	3.9	879.3	879.3	880.3	1.0
R	64,650	318	1759	2.0	881.1	881.1	882.1	1.0
S	70,600	302	1493	2.3	887.1	887.1	888.1	1.0
T	72,250	197	1303	2.7	888.4	888.4	889.3	0.9
U	75,750	429	1673	2.1	891.8	891.8	892.8	1.0
V	83,350	295	1878	1.9	900.3	900.3	901.3	1.0
W	87,550	574	3447	1.0	902.1	902.1	903.1	1.0
X	92,500	650	3453	1.0	903.6	903.6	904.6	1.0
Y	97,900	786	3222	1.1	906.0	906.0	907.0	1.0
Z	99,450	153	975	3.6	907.5	907.5	908.5	1.0

[1]FEET ABOVE VALLEY ROAD

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

WAYNE COUNTY, OH AND INCORPORATED AREAS

FLOODWAY DATA

KILLBUCK CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
KILLBUCK CREEK								
AA	101,400	1286	10,064	0.4	908.5	908.5	909.5	1.0
AB	106,800	148	803	4.7	922.8	922.8	923.8	1.0
AC	109,550	90	487	7.8	937.6	937.6	938.6	1.0
AD	110,450	214	1308	2.9	940.0	940.0	941.0	1.0
AE	112,000	136	862	4.4	944.4	944.4	945.4	1.0
AF	118,100	83[3]	813	4.7	952.3	952.3	953.3	1.0
AG	126,200	1607[3]	10,702	0.4	953.6	953.6	954.6	1.0
AH	130,800	1047[4]	3329	1.0	957.6	957.6	958.6	1.0
AI	132,200	48	494	6.9	962.3	962.3	963.3	1.0
AJ	135,350	283	1529	2.2	966.6	966.6	967.6	1.0
AK	136,750	260	1756	2.2	968.3	968.3	969.3	1.0
AL	138,000	215	788	5.0	969.5	969.5	970.5	1.0
AM	140,550	170	944	4.1	974.7	974.7	975.7	1.0
AN	143,050	145	893	4.4	979.0	979.0	980.0	1.0
AO	146,850	163	1063	3.7	985.4	985.4	986.4	1.0
AP	149,550	124	634	5.8	997.4	997.4	998.4	1.0
LITTLE KILLBUCK CREEK								
A	4200[2]	161	938	5.4	877.1	877.1	878.1	1.0
B	10,550[2]	64	407	8.5	914.1	914.1	915.7	1.0
C	17,950[2]	88	470	6.7	984.0	984.0	985.0	1.0
D	24,050[2]	56	359	8.8	1044.1	1044.1	1045.1	1.0

[1]FEET ABOVE VALLEY ROAD
[2]FEET ABOVE MOUTH
[3]THIS WIDTH IS BEYOND COUNTY BOUNDARY
[4]THIS WIDTH EXTENDS BEYOND COUNTY BOUNDARY

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

WAYNE COUNTY, OH AND INCORPORATED AREAS

FLOODWAY DATA

KILLBUCK CREEK–LITTLE KILLBUCK CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
APPLE CREEK								
A	4050	770	6320	1.5	864.7	864.7	865.7	1.0
B	5275	220	1982	4.9	866.4	866.4	867.4	1.0
C	5775	709	6083	1.6	868.0	868.0	869.0	1.0
D	7750	230	2004	4.8	871.5	871.5	872.5	1.0
E	9450	127	1295	7.6	876.1	876.1	877.1	1.0
F	11,550	498	4389	2.2	886.3	886.3	887.3	1.0
G	13,650	238	1814	5.4	888.7	888.7	889.7	1.0
H	14,500	80	749	9.5	892.2	892.2	893.2	1.0
I	16,350	265	1100	6.5	901.1	901.1	902.1	1.0
J	18,550	122	893	8.0	911.0	911.0	912.0	1.0
K	19,800	138	1419	5.0	916.9	916.9	917.9	1.0
L	20,700	168	1299	4.9	918.3	918.3	919.3	1.0
M	28,975	80	687	8.7	952.9	952.9	953.9	1.0
N	33,450	222	1233	4.9	970.4	970.4	971.4	1.0
O	34,200	166	1475	4.1	974.5	974.5	975.5	1.0
P	38,250	184	1085	5.4	982.9	982.9	983.9	1.0
Q	42,900	387	1855	3.2	995.7	995.7	996.7	1.0
R	44,450	458	2003	2.9	998.6	998.6	999.6	1.0
S	46,250	712	3112	1.9	1002.8	1002.8	1003.8	1.0
LITTLE APPLE CREEK 2								
T	51,500	168	1295	4.6	1019.2	1019.2	1020.2	1.0
U	53,900	68	416	5.6	1025.3	1025.3	1026.3	1.0
V	56,650	88	368	6.3	1035.3	1035.3	1036.3	1.0

[1]FEET ABOVE MOUTH

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

WAYNE COUNTY, OH AND INCORPORATED AREAS

FLOODWAY DATA

APPLE CREEK/LITTLE APPLE CREEK 2

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
LITTLE APPLE CREEK 1								
A	1750	34	241	12.2	973.7	973.7	974.7	1.0
B	2800	50	252	11.7	984.9	984.9	985.9	1.0
C	4800	173	671	4.4	1006.1	1006.1	1007.1	1.0
D	6350	120	340	8.7	1018.3	1018.3	1019.3	1.0
E	10,350	73	379	6.5	1050.7	1050.7	1051.7	1.0
F	14,550	101	568	4.4	1088.2	1088.2	1089.2	1.0
G	17,550	132	1406	1.8	1105.8	1105.8	1106.8	1.0
H	20,900	73	520	4.8	1115.1	1115.1	1116.1	1.0
CLEAR CREEK								
A	1625[2]	85	324	10.2	864.7	864.7	865.7	1.0
B	5275[2]	173	688	4.8	887.5	887.5	888.5	1.0
C	6950[2]	71	393	8.4	897.6	897.6	898.6	1.0
D	12,300[2]	93	540	6.1	929.8	929.8	930.8	1.0
E	15,200[2]	114	633	5.2	947.2	947.2	948.2	1.0
F	17,100[2]	130	375	8.1	961.5	961.5	962.5	1.0
G	21,150[2]	88	472	6.4	997.2	997.2	998.2	1.0
H	22,150[2]	60	345	8.8	1005.9	1005.9	1006.9	1.0
I	25,075[2]	109	518	5.9	1029.8	1029.8	1030.8	1.0

[1]FEET ABOVE PORTAGE ROAD
[2]FEET ABOVE MOUTH

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

WAYNE COUNTY, OH AND INCORPORATED AREAS

FLOODWAY DATA

LITTLE APPLE CREEK 1–CLEAR CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
CHIPPEWA CREEK								
A	7.808	1920	14,953	0.8	956.8	956.8	957.6	0.8
B	8.580	1475	9,706	1.0	956.9	956.9	957.8	0.9
C	8.827	1286	8,108	1.2	957.4	957.4	958.3	0.9
D	9.894	2800	13,364	0.7	957.7	957.7	958.7	1.0
CEDAR RUN								
A	2625[2]	63	296	15.4	891.5	891.5	892.5	1.0
B	3775[2]	111	750	6.1	905.7	905.7	906.7	1.0
C	6250[2]	80	511	8.9	923.8	923.8	924.8	1.0
D	9325[2]	281	424	10.8	955.4	955.4	956.4	1.0
CHRISTMAS RUN								
A	5504[2]	195	300	4.7	862.1	862.1	863.0	0.9
B	6297[2]	65	250	5.1	873.9	873.9	874.3	0.4
C	6402[2]	45	160	8.3	874.4	874.4	874.9	0.5
D	6614[2]	195	280	4.7	878.4	878.4	878.5	0.1
E	6930[2]	35	130	10.2	881.3	881.3	881.3	0.0
F	7722[2]	35	120	10.1	891.5	891.5	891.9	0.4
RATHBURN RUN								
A	825[2]	129	678	7.2	903.8	903.8	904.8	1.0

[1]MILES ABOVE MOUTH
[2]FEET ABOVE MOUTH

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

WAYNE COUNTY, OH AND INCORPORATED AREAS

FLOODWAY DATA

CHIPPEWA CREEK—CEDAR RUN—CHRISTMAS RUN—RATHBURN RUN

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
TOMMY RUN								
A	2940	380	2124	1.4	969.7	969.7	969.7	0.0
B	3917	150	765	3.8	969.7	969.7	969.8	0.1
LANDIS DITCH								
A	0.040[2]	170	311	5.3	961.3	955.1[3]	956.1	1.0
B	0.176[2]	255	698	2.3	961.3	961.0[3]	960.9	0.9
C	0.255[2]	290	747	2.2	961.3	960.3[3]	961.3	1.0
D	0.351[2]	142	287	5.7	961.8	961.8	962.2	0.4
E	0.478[2]	39	199	8.2	966.2	966.2	966.2	0.0
F	0.514[2]	99	298	5.5	967.3	967.3	967.6	0.3
G	0.529[2]	79	293	5.6	967.4	967.4	968.0	0.6
H	0.568[2]	76	306	5.4	967.7	967.7	968.7	1.0
I	0.639[2]	31	168	9.8	968.7	968.7	969.7	1.0
J	0.857[2]	100	313	5.2	975.9	975.9	976.8	0.9
SNYDERS DITCH								
A	1373	680	3780	0.1	861.5	860.1[4]	861.1	1.0
B	2323	190	840	0.5	861.5	860.1[4]	861.1	1.0
C	2746	100	170	2.7	861.5	861.2[4]	862.1	0.9
D	3274	35	70	6.5	866.4	866.4	866.9	0.5
E	3802	15	40	9.1	871.9	871.9	872.3	0.4

[1]FEET ABOVE MOUTH
[2]MILES ABOVE MOUTH
[3]ELEVATIONS WITHOUT CONSIDERING BACKWATER EFFECT FROM RIVER STYX
[4]ELEVATIONS WITHOUT CONSIDERING BACKWATER EFFECT FROM KILLBUCK CREEK

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

WAYNE COUNTY, OH AND INCORPORATED AREAS

FLOODWAY DATA

TOMMY RUN—LANDIS DITCH—SNYDERS DITCH

5.0 INSURANCE APPLICATION

For flood insurance rating purposes, flood insurance zone designations are assigned to a community based on the results of the engineering analyses. These zones are as follows:

Zone A

Zone A is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no base flood elevations or depths are shown within this zone.

Zone AE

Zone AE is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by detailed methods. Whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone X

Zone X is the flood insurance rate zone that corresponds to areas outside the 100-year floodplain, areas of 100-year flooding where average depths are less than 1 foot, areas of 100-year flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 100-year flood by levees. No base flood elevations or depths are shown within this zone.

6.0 FLOOD INSURANCE RATE MAP

The Flood Insurance Rate Map is designed for flood insurance and floodplain management applications.

For flood insurance applications, the map designates flood insurance rate zones as described in Section 5.0 and, in the 100-year floodplains that were studied by detailed methods, shows selected whole-foot base flood elevations or average depths. Insurance agents use the zones and base flood elevations in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

For floodplain management applications, the map shows by tints, screens, and symbols the 100- and 500-year floodplains, the floodways, and the locations of selected cross sections used in the hydraulic analyses and floodway computations.

The current Flood Insurance Rate Map presents flooding information for the geographic area of Wayne County. Previously, separate Flood Hazard Boundary Maps and/or Flood Insurance Rate Maps were prepared for each floodprone incorporated community and the unincorporated areas of the county. Historical data relating to the maps prepared for each community are presented in Table 3, Community Map History.

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISIONS DATE	FIRM EFFECTIVE DATE	FIRM REVISIONS DATE
APPLE CREEK, VILLAGE OF	MARCH 29, 1974	AUGUST 20, 1976	MAY 17, 1989	
BURBANK, VILLAGE OF	APRIL 18, 1975		MAY 17, 1989	
CRESTON, VILLAGE OF	FEBRUARY 1, 1974	MAY 28, 1976	MAY 17, 1989	
FREDERICKSBURG, VILLAGE OF	JANUARY 16, 1974	MAY 21, 1976	SEPTEMBER 1, 1987	
ORRVILLE, CITY OF	NOVEMBER 15, 1974		SEPTEMBER 1, 1987	
SHREVE, VILLAGE OF	MAY 17, 1989		MAY 17, 1989	
SMITHVILLE, VILLAGE OF	APRIL 5, 1974	JUNE 4, 1976	AUGUST 1, 1987	
WEST SALEM, VILLAGE OF	APRIL 5, 1974	JUNE 4, 1976	JULY 17, 1986	
WOOSTER, CITY OF	OCTOBER 26, 1973		FEBRUARY 2, 1977	
UNINCORPORATED AREAS	JANUARY 3, 1975	FEBRUARY 18, 1977	MAY 17, 1989	

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

WAYNE COUNTY, OH AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

7.0 OTHER STUDIES

A Flood Insurance Study published for Medina County, Ohio (Reference 21) contains detailed data for the River Styx. Discharges used in that study were based on a rainfall frequency study by the SCS. This study is based on a regionalized flow frequency analysis that produced discharge values that were not within the acceptable confidence limits of the SCS data. Therefore, discharge values used for this study are higher than those used in the Medina County study and the 100-year flood elevations are 1.2 feet higher in this study than the elevations at the county boundary shown in the Medina County study. A revision to the Medina County Flood Insurance Study will be prepared in the future to correct the discrepancy.

Flood Insurance Rate Maps have been printed for the Village of Clinton, Stark County, and Summit County, Ohio (References 8, 22, and 23) and are in agreement with this study.

Flood Insurance Studies in progress for the City of Rittman and Holmes County, Ohio (References 7 and 24) are in agreement with this study.

This Flood Insurance Study supersedes the previously printed Flood Hazard Boundary Maps for Wayne County and the Villages of Apple Creek, Burbank, and Creston, Ohio (References 9 and 18-20); the Flood Insurance Rate Maps for the Villages of Fredericksburg, Smithville, and West Salem and the City of Orrville, Ohio (References 1-4); the previously published Flood Insurance Study for the City of Wooster, Ohio (Reference 5); and the SCS "Killbuck Creek Flood Hazard Study, Wayne County, Ohio" (Reference 6).

8.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this study can be obtained by contacting the Natural and Technological Hazards Division, FEMA, 175 West Jackson Boulevard, 4th Floor, Chicago, Illinois 60604-2698.

9.0 REFERENCES AND BIBLIOGRAPHY

1. Federal Emergency Management Agency, Flood Insurance Rate Map, Village of Fredericksburg, Wayne County, Ohio, September 1987.

2. ————, Flood Insurance Rate Map, Village of Smithville, Wayne County, Ohio, August 1987.

3. ----------, Flood Insurance Rate Map, Village of West Salem, Wayne County, Ohio, July 1986.

4. ————, Flood Insurance Rate Map, City of Orrville, Wayne County, Ohio, September 1987.

5. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Insurance Study, City of Wooster, Wayne County, Ohio, February 1977.

6. U.S. Department of Agriculture, Soil Conservation Service, Killbuck Creek Flood Hazard Study, Wayne County, Ohio, Columbus, Ohio, August 1982.

7. Federal Emergency Management Agency, Flood Insurance Study, City of Rittman, Medina and Wayne Counties, Ohio, in progress.

8. ———, Federal Insurance Administration, Flood Insurance Rate Map, Village of Clinton, Summit County, Ohio, July 1980.

9. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, Wayne County, Unincorporated Areas, Ohio, February 1977.

10. U.S. Department of Commerce, Bureau of the Census, 1980 Census of Population, Number of Inhabitants, Ohio, Washington, D.C., February 1982.

11. U.S. Weather Bureau, Ohio Agricultural Research and Development Center, Climatological Summary, Wooster, Ohio, Wooster, Ohio, December 1966.

12. State of Ohio, Department of Natural Resources, Division of Water, Floods in Ohio, Bulletin 45, Columbus, Ohio, May 1977.

13. U.S. Department of Agriculture, Soil Conservation Service, Technical Release No. 20, Computer Program for Project Formulation, Hydrology, Washington, D.C., 1982.

14. ———, Soil Conservation Service, Technical Release No. 61, WSP-2 Computer Program, May 1976.

15. ———, Soil Conservation Service, Technical Release No. 64, Floodway Determination Computer Program, Glenn Dale, Maryland, June 1978.

16. U.S. Geological Survey, 7.5 Minute Series Topographic Maps, Scale 1:24000, Contour Interval 10 Feet: Creston, Ohio, 1961; Dayton, Ohio, 1961; Doylestown, Ohio, 1969; Jeromesville, Ohio, 1961; New Pittsburgh, Ohio, 1961; Orrville, Ohio, 1961; Polk, Ohio, 1961; Rittman, Ohio, 1978; West Salem, Ohio, 1961; Wooster, Ohio, 1969.

17. ———, 7.5 Minute Series Topographic Maps, Scale 1:24000, Contour Interval 20 Feet: Fredericksburg, Ohio, 1961; Loudonville, Ohio, 1961; Shreve, Ohio, 1961; Wilmot, Ohio, 1961.

18. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, Village of Apple Creek, Wayne County, Ohio, August 1976.

19. ———, Federal Insurance Administration, Flood Hazard Boundary Map, Village of Burbank, Wayne County, Ohio, April 1975.

20. ———, Federal Insurance Administration, Flood Hazard Boundary Map, Village of Creston, Wayne County, Ohio, May 1976.

21. Federal Emergency Management Agency, Flood Insurance Study, Medina County, Unincorporated Areas, Ohio, August 1983.

22. ————, Flood Insurance Rate Map, Stark County, Unincorporated Areas, Ohio, September 1983.

23. ————, Federal Insurance Administration, Flood Insurance Rate Map, Summit County, Unincorporated Areas, Ohio, April 1981.

24. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Insurance Rate Map, Holmes County, Unincorporated Areas, Ohio, January 1978.

ELEVATION REFERENCE MARKS

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
1	0010	903.36	disk set in top of north end of east abutment of Easton Road bridge over Killbuck Creek, about 2 miles northeast of Village of Congress
2	0010	904.22	disk set in concrete post projecting 2 inches above ground located 31.5 feet east of east rail of CSX railroad, 21 feet north of centerline of Sterling Road
3	0010	916.38	disk set in concrete post projecting 3 inches above ground located 56.5 feet east of east rail of CSX railroad, 20 feet north of centerline of Britton Road
4	0010	906.39	top of concrete post located about 200 feet south of junction of West Salem Road and CSX railroad, just east of railroad
5	0020	901.11	disk set in concrete post projecting 3 inches above ground, located 39 feet east of centerline of Overton Road, 9 feet southeast of 36-inch elm tree, about 1.15 miles north of intersection of County Road 22 and Overton Road
6	0020	890.93	disk set in concrete post projecting 4 inches above ground, located 34 feet east of east rail of CSX railroad, 40 feet west of power pole, about 40 feet southeast of intersection of CSX railroad and Overton Road
7	0030	950.40	top of vertical railroad rail located in southeast wingwall of West Salem Road bridge over Killbuck Creek in Village of Burbank
8	0030	961.32	top of vertical railroad rail located in northeast wingwall of Canaan Center Road bridge over Killbuck Creek, about 1,000 feet north of intersection of West Salem Road and Canaan Center Road

ELEVATION REFERENCE MARKS (Continued)

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
9	0035	971.83	chiseled cross on top of southeast abutment of West Salem Road bridge over Killbuck Creek, about 1,500 feet west of intersection of West Salem Road and Pine Street
10	0035	984.87	railroad spike on north side of telephone pole located on northeast corner of intersection of Private Road and Pine Street, about 1,100 feet south of intersection of Britton Road and Pine Street
11	0035	1,005.16	chiseled square on top of northeast corner of north wingwall of Sterling Road bridge over Killbuck Creek, about 1 mile west of intersection of Sterling Road and Pine Street
12	0110	893.56	brass disk set at end of southwest wingwall of Overton Road bridge over Unnamed Stream, about 200 feet north of junction of McAfee Road and Overton Road
13	0110	884.42	disk on top of wingwall at northeast corner of Overton Road bridge over Cedar Run, about 2 miles north of intersection of County Route 86 and Overton Road
14	0110	902.51	chiseled cross on top of southeast abutment of Township Road 35 bridge over Little Killbuck Creek
15	0110	953.51	top of 3-inch angle iron guardrail post at northeast corner of Lehr Road bridge over Little Killbuck Creek
16	0110	1,057.42	disk set in northwest abutment of Township Road 36 bridge over Little Killbuck Creek

ELEVATION REFERENCE MARKS (Continued)

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
17	0110	931.10	disk set vertically in north face of rock, 25 feet long, 3.5 feet high, located 19 feet south of centerline of Cedar Valley Road, about 0.4 mile southeast of intersection of Cedar Valley Road and Rice Hill Road
18	0110	966.23	disk set in top of concrete post located 50 feet south of junction of Cedar Valley Road and County Road 154
19	0130	878.33	disk set in top of east end of south abutment of Overton Road bridge over Little Killbuck Creek, about 300 feet southeast of intersection of Overton Road and State Route 302
20	0130	895.76	top of steel angle iron bracing in southwest corner of wingwall of Township Road 4 bridge over Clear Creek, about 1,800 feet west of intersection of Township Road 4 and Mechanicsburg Road
21	0130	941.49	bronze disk set in top of southwest wingwall of Highland Avenue bridge over Clear Creek, about 1,800 feet west of intersection of Highland Avenue and Mechanicsburg Road
22	0130	965.68	top of second vertical railroad pile (from Flickinger Hill Road) on southwest corner of south wingwall of Flickinger Hill Road over Clear Creek, about 800 feet west of intersection of Flickinger Hill Road and Mechanicsburg Road
23	0130	988.16	chiseled square on southeast corner of south wingwall of Mechanicsburg Road bridge, about 700 feet north of intersection of Mechanicsburg Road and Milltown Road

ELEVATION REFERENCE MARKS (Continued)

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
24	0130	1,039.03	chiseled cross at end of top step of southeast corner of south wingwall of Smithville Western Road bridge over Clear Creek, about 2,500 feet east of intersection of Mechanicsburg Road and Smithville Western Road
25	0135	977.99	chiseled "Y" on northwest end of wingwall of drop structure in Little Apple Creek 1, about 1,700 feet north of Portage Road
26	0135	1,019.20	chiseled "Y" on southwest corner of southeast abutment of Milltown Road bridge over Little Apple Creek 1
27	0135	1,089.81	chiseled "Y" on northwest wingwall of County Smithville Western Road bridge over Little Apple Creek 1
28	0135	1,117.79	disk set in top of concrete post located 26.5 feet west of centerline of State Route 3, 1 foot east of wire fence, about 3,000 feet north of intersection of Schellin Road and State Route 3
29	0140	859.88	chiseled square on northwest corner of northeast wingwall of Old Columbus Road bridge over Apple Creek, 100 feet east of entrance to Wooster Water Pollution Control Plant, 15 feet north of centerline of Old Columbus Road
30	0140	886.07	chiseled square on northeast corner of abutment of eastbound State Route 3 bridge over Killbuck Creek at end of guardrail, about 2.2 miles northeast of intersection of Heyl Road and State Route 3
31	0140	864.07	top of steel beam guardrail post at southeast corner of eastbound U.S. Route 30 bridge over Killbuck Creek, about 4.5 miles west of intersection of U.S. Route 30 and State Route 3

ELEVATION REFERENCE MARKS (Continued)

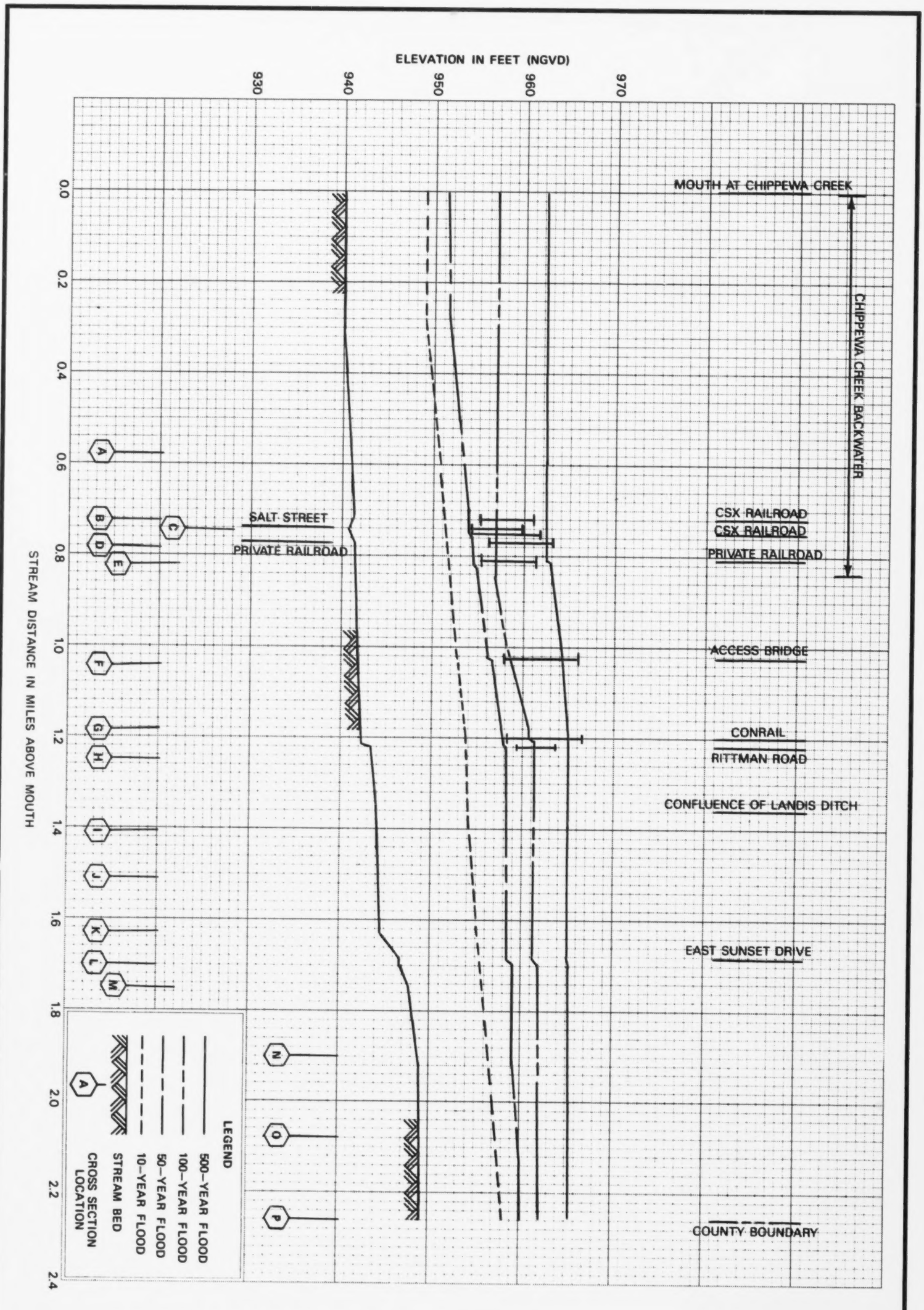
REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
32	0140	864.36	disk set vertically in south face of building, 21 feet west of southeast corner, 2.5 feet above ground level, about 400 feet east of intersection of State Route 302 and Old Mansfield Road
33	0140	865.38	railroad spike 0.5 foot above ground level on north side of 16-inch oak tree, 33 feet east of intersection of Silver Road and Township Road 192
34	0145	894.01	top of fire hydrant at northwest corner of intersection of Pittsburgh Avenue and Baurer Road
35	0145	902.74	chiseled "Y" on northwest abutment of State Route 3 bridge over Apple Creek, about 750 feet south of intersection of Conrail and State Route 3
36	0145	902.82	railroad spike 1 foot above ground on southeast side of 30-inch walnut tree located 100 feet south of Apple Creek, 100 feet west of Hillcrest Drive
37	0145	940.38	railroad spike 1 foot above ground on south side of power pole, 50 feet east of upstream crossing of U.S. Route 30 bridge over Apple Creek
38	0145	946.60	top of semi-circular millstone marked "Coon Hollow Corp. Limit" on west side of Honeytown Road, 100 feet southwest of Honeytown Road bridge over Apple Creek
39	0165	996.25	top of 90-degree elbow on 1-inch pipe extending from southeast abutment of Barnard Road bridge over Apple Creek
40	0165	1,002.82	disk on top of north end of east abutment of U.S. Route 250 bridge over Apple Creek

ELEVATION REFERENCE MARKS (Continued)

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
41	0165	1,037.83	disk on top of west corner of south wingwall of Hackett Road bridge over Little Apple Creek 2
42	0230	845.99	chiseled square on northeast corner of headwall of box culvert under Conrail, 75 feet downstream of Valley Road and Messner Road bridge over Killbuck Creek
43	0230	850.89	chiseled "Y" on southwest corner of angle point of northwest wingwall of Conrail bridge over Killbuck Creek, 1.2 miles upstream of Valley Road and Messner Road bridge over Killbuck Creek
44	0255	1,013.80	chiseled cross on top of south corner of Banks Street bridge over Apple Creek
45	0255	1,025.04	disk set in top of southwest end of northwest abutment of U.S. Route 250 bridge over Little Apple Creek 2
46	0060	967.92	standard U.S. Coast and Geodetic Survey tablet stamped "H177 1954" set in south face of Hall Building located at northeast corner of intersection of North Main Street and Salt Street
47	0060	958.98	standard U.S. Coast and Geodetic Survey tablet stamped "J177 1954" set vertically in north face of city sewage disposal valve control house located about 950 feet west of CSX railroad bridge over the River Styx
48	0060	961.23	standard U.S. Coast and Geodetic Survey tablet stamped "G177 1954" set vertically in south face of concrete foundation located about 0.8 mile west of CSX railroad bridge over the River Styx, about 55 feet north of tracks

ELEVATION REFERENCE MARKS (Continued)

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
49	0060	975.05	standard U.S. Coast and Geodetic Survey tablet stamped "F177 1954" set in concrete post located about 23 feet southwest of intersection of Front Street and Access Road
50	0060	968.89	copper bolt located in top stone at north end of west abutment of CSX railroad bridge over Tommy Run
51	0060	961.75	chiseled cross in southeast abutment of Rittman Road bridge over the River Styx
52	0060	958.32	center of third railroad rail used for piling located southwest of East Sunset Drive bridge over the River Styx



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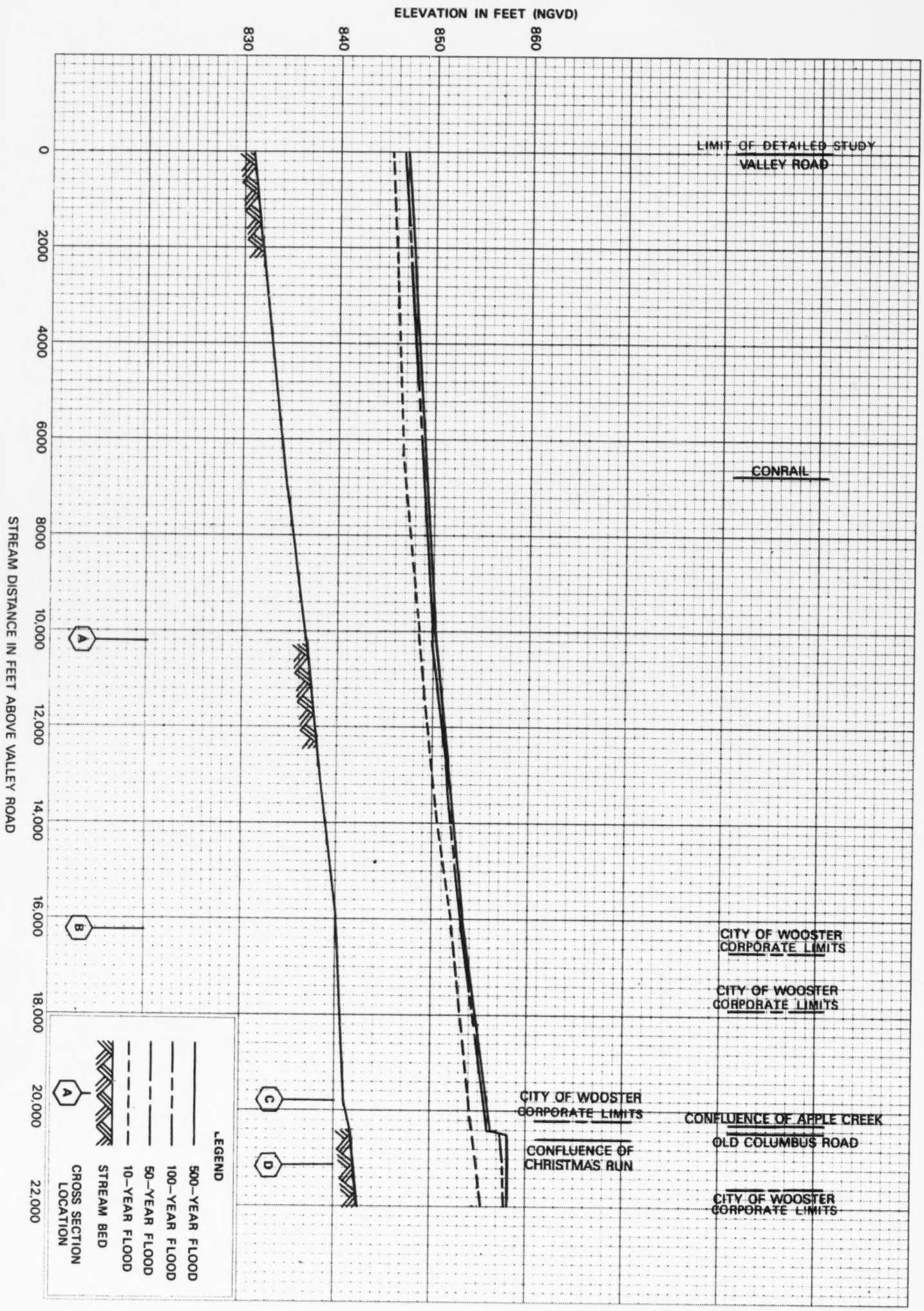
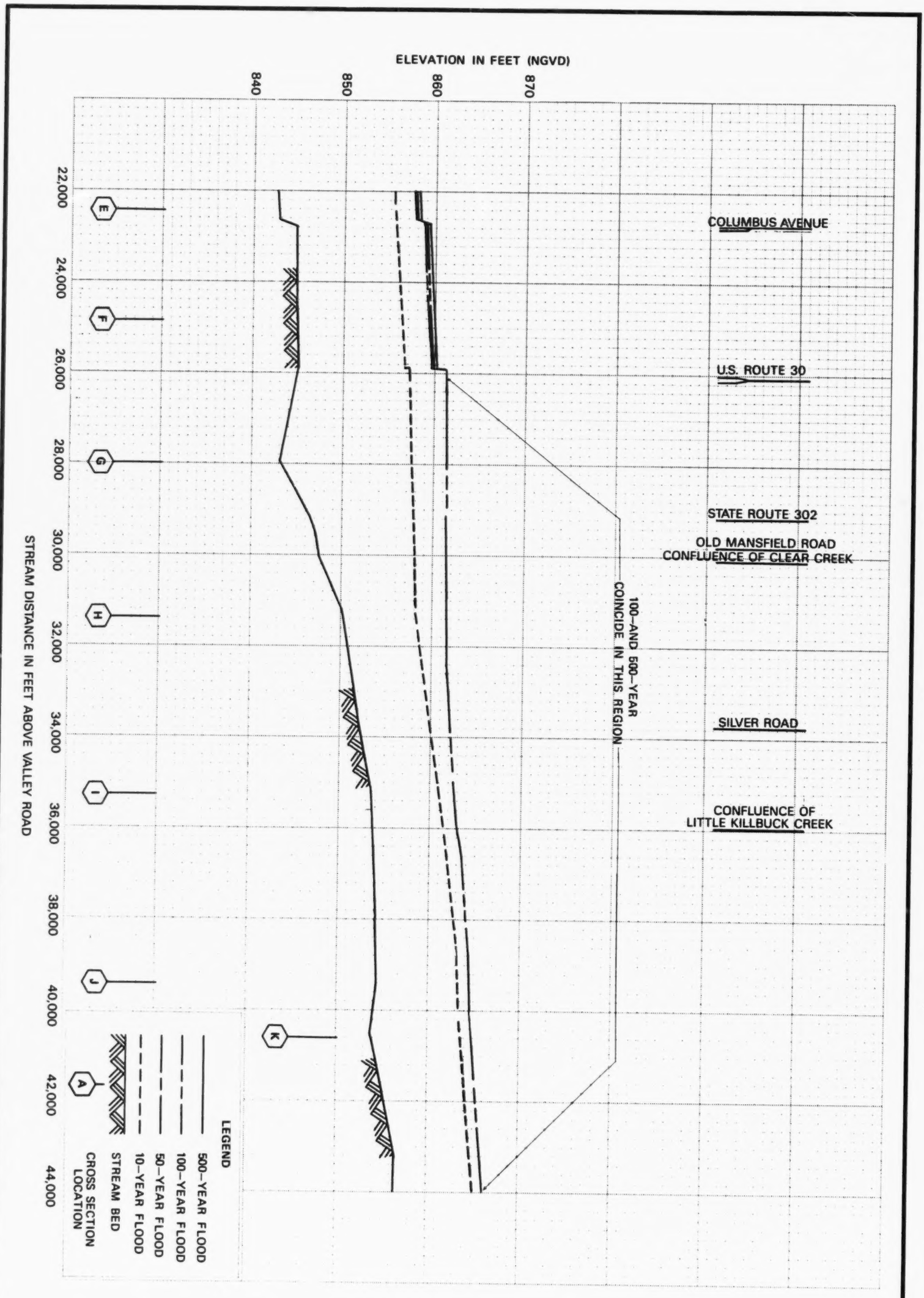
01P	FEDERAL EMERGENCY MANAGEMENT AGENCY WAYNE COUNTY, OH AND INCORPORATED AREAS	FLOOD PROFILES RIVER STYX



31

02P	FEDERAL EMERGENCY MANAGEMENT AGENCY WAYNE COUNTY, OH AND INCORPORATED AREAS	FLOOD PROFILES KILLBUCK CREEK



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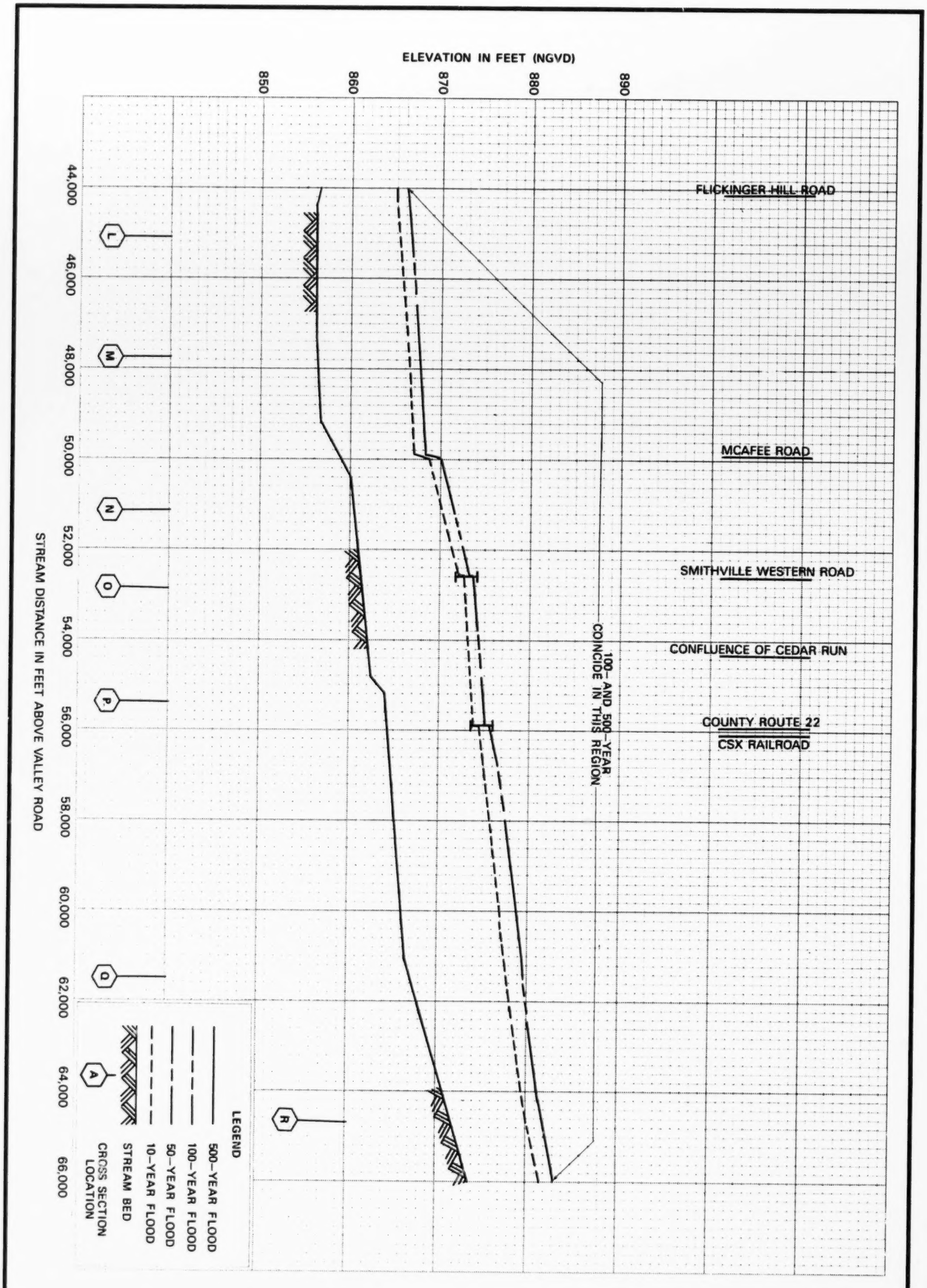
03P	FEDERAL EMERGENCY MANAGEMENT AGENCY WAYNE COUNTY, OH AND INCORPORATED AREAS	FLOOD PROFILES KILLBUCK CREEK



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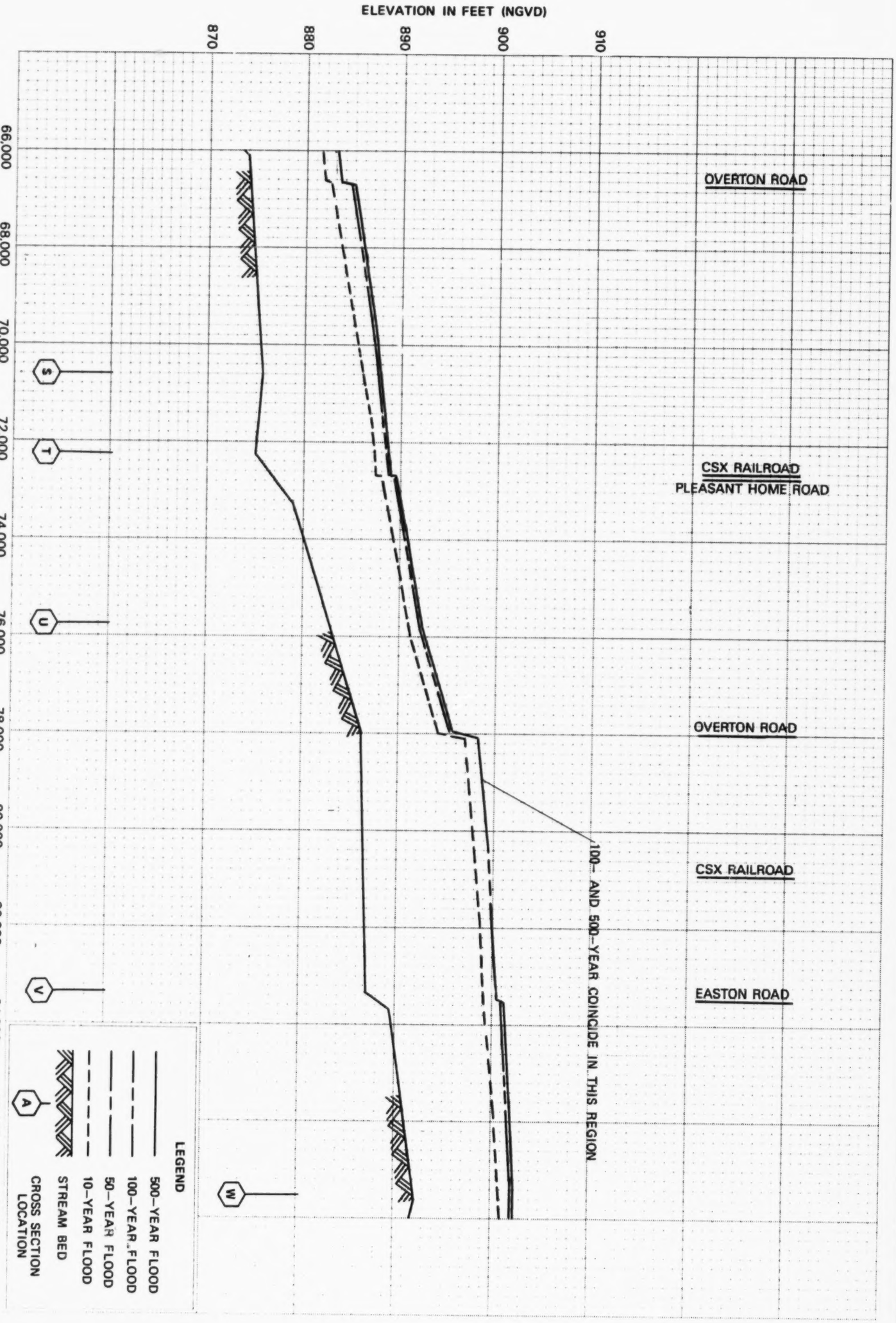
04P	FEDERAL EMERGENCY MANAGEMENT AGENCY WAYNE COUNTY, OH AND INCORPORATED AREAS	FLOOD PROFILES KILLBUCK CREEK



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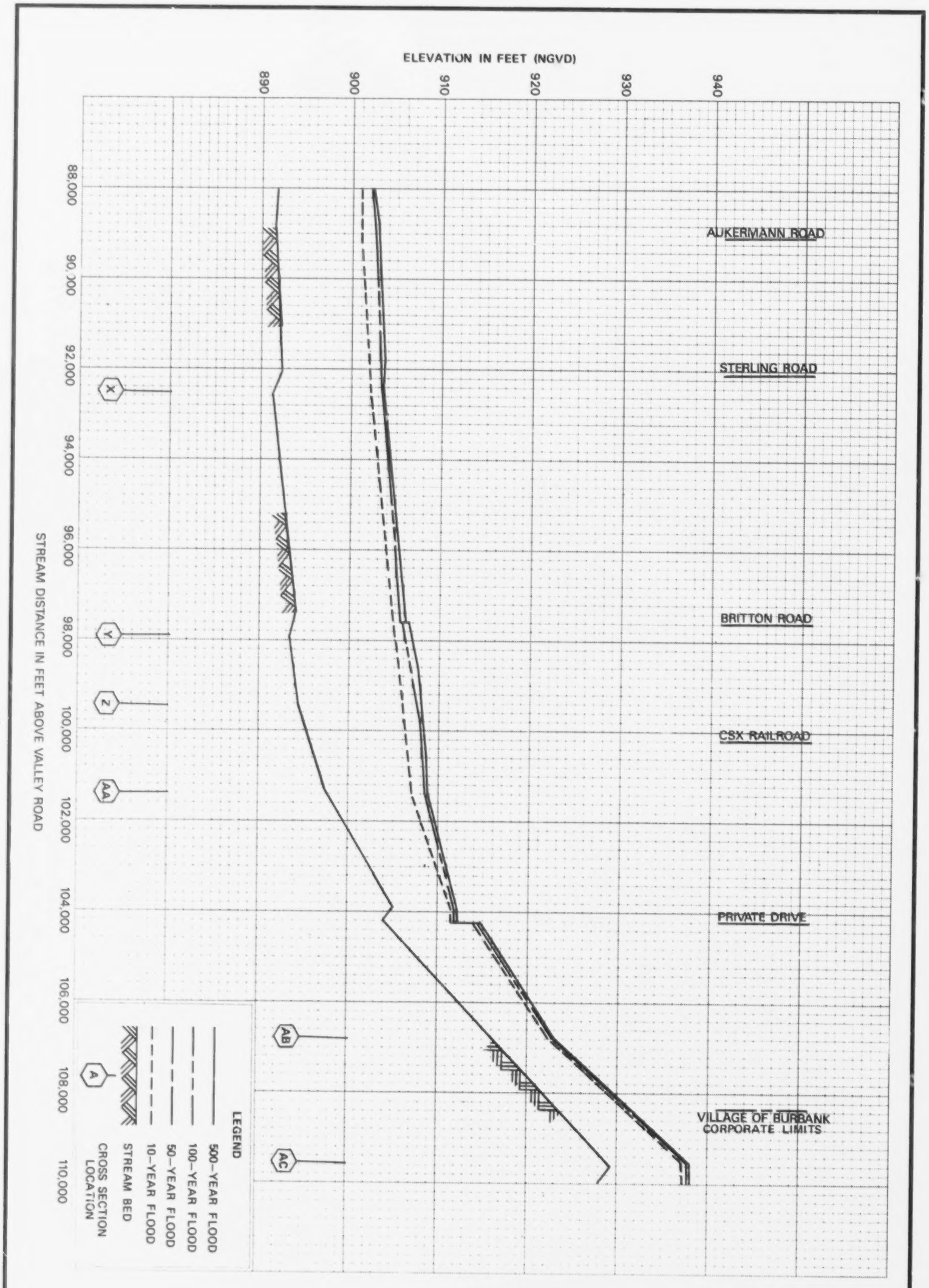
05P	FEDERAL EMERGENCY MANAGEMENT AGENCY WAYNE COUNTY, OH AND INCORPORATED AREAS	FLOOD PROFILES KILLBUCK CREEK



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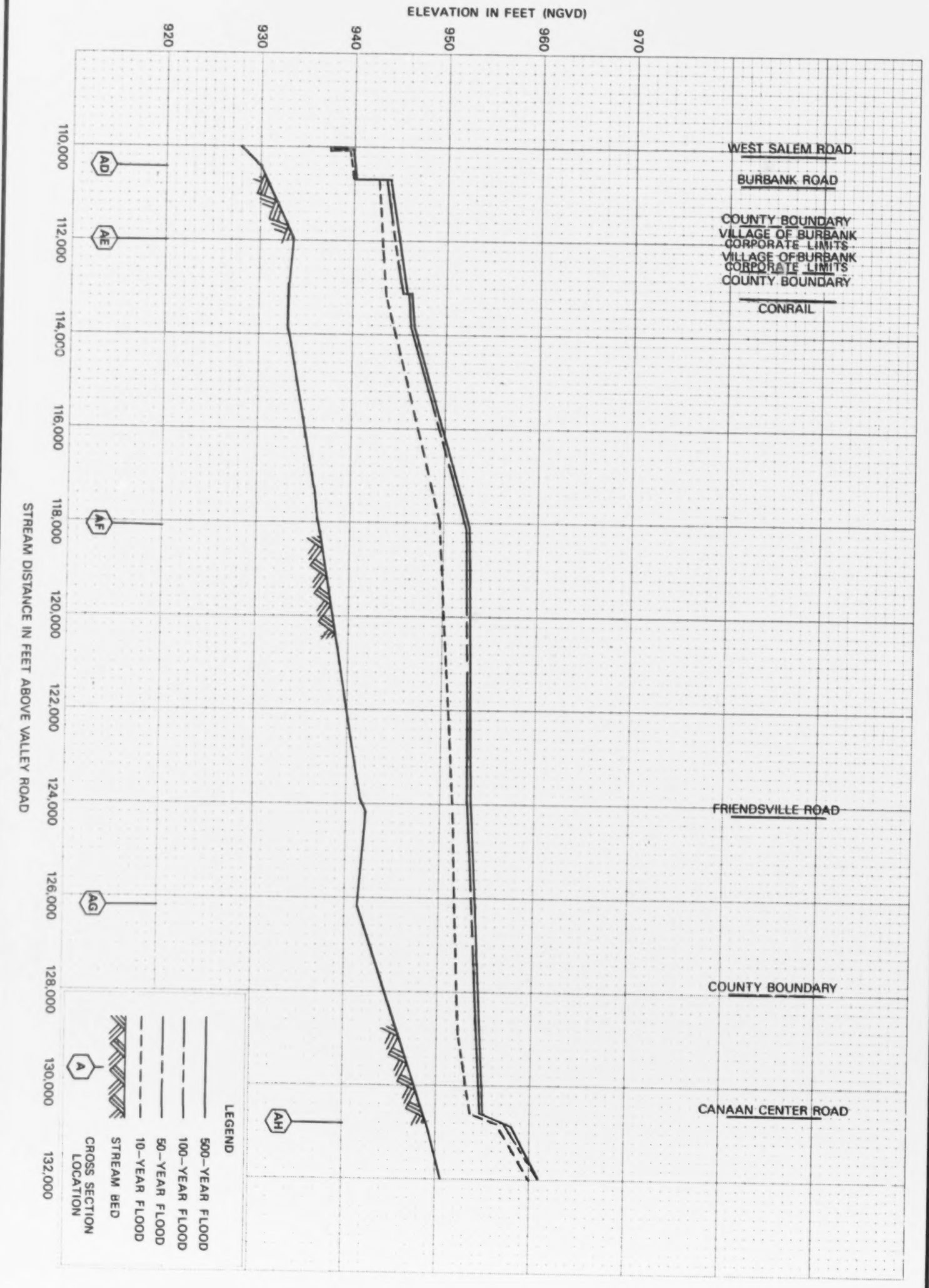
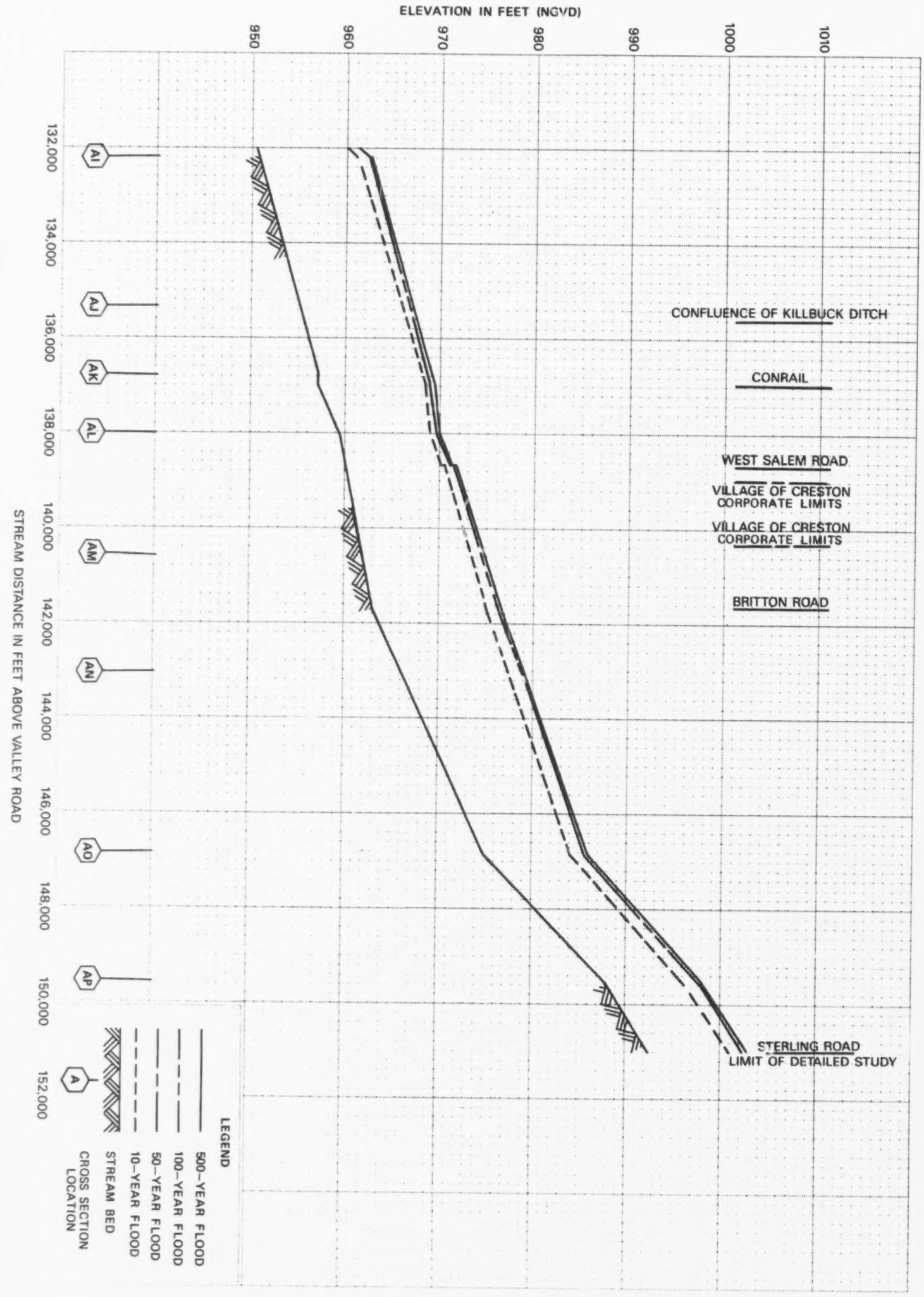
06P	FEDERAL EMERGENCY MANAGEMENT AGENCY WAYNE COUNTY, OH AND INCORPORATED AREAS	FLOOD PROFILES KILLBUCK CREEK



07P	FEDERAL EMERGENCY MANAGEMENT AGENCY WAYNE COUNTY, OH AND INCORPORATED AREAS	FLOOD PROFILES KILLBUCK CREEK



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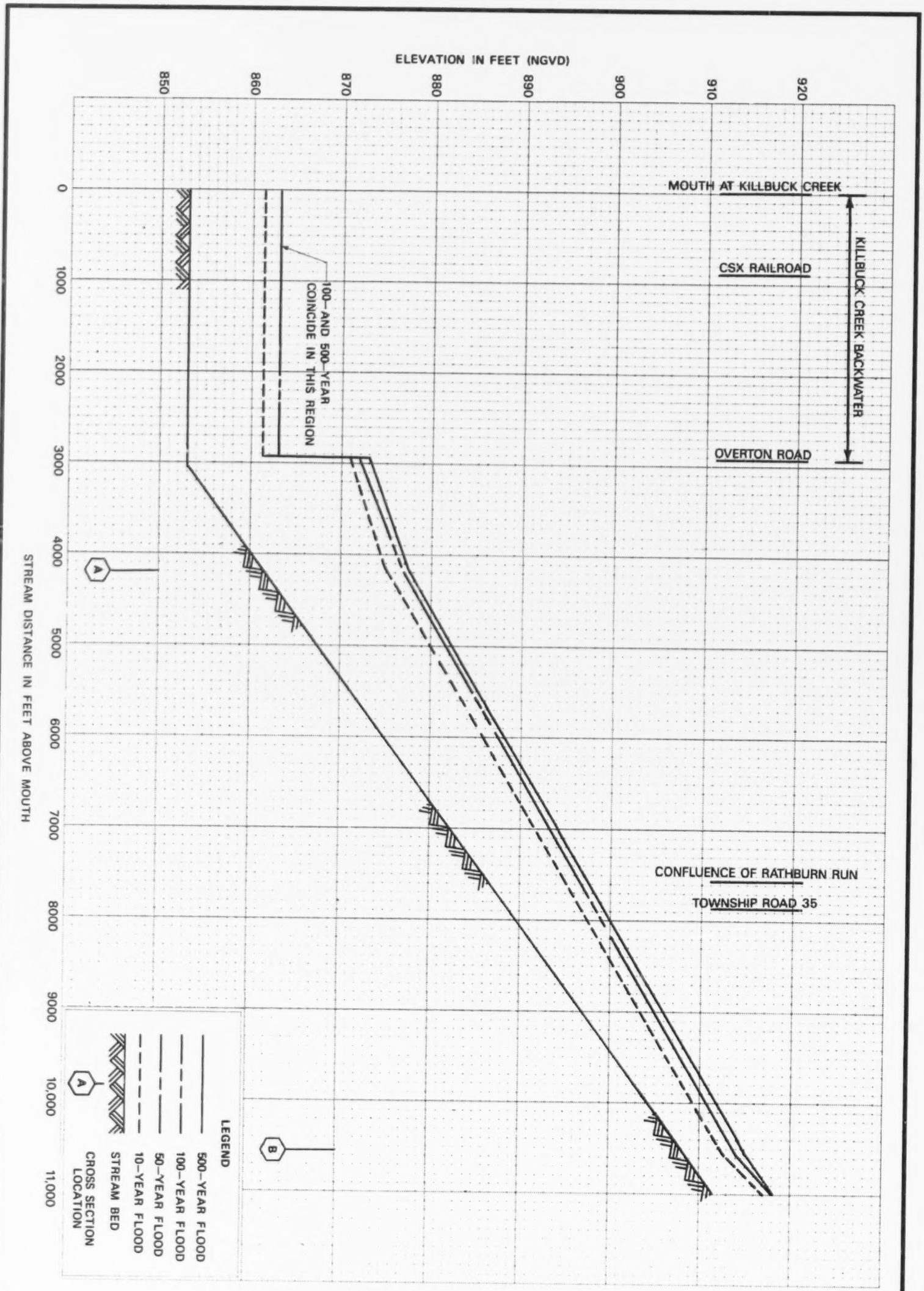
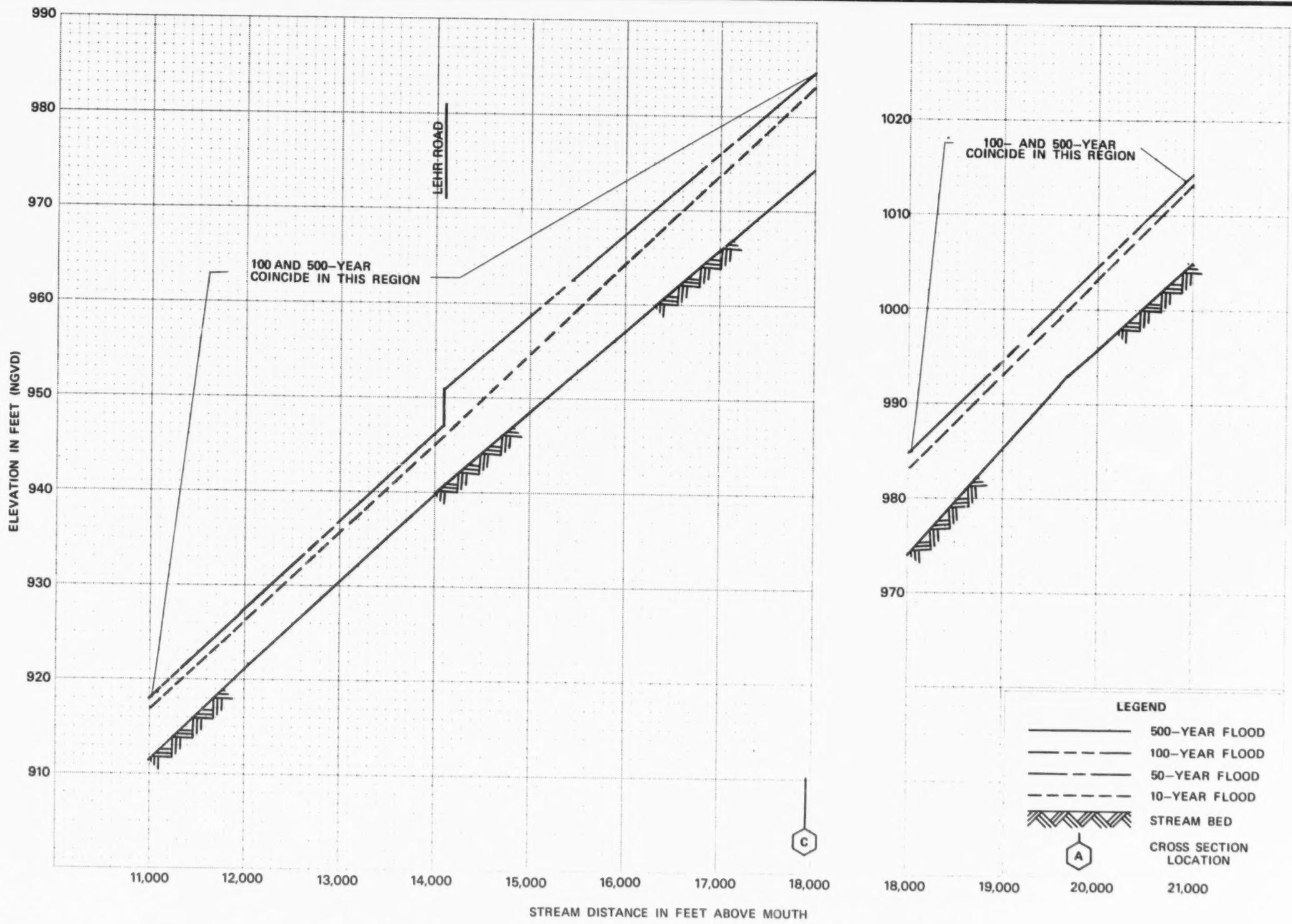
08P	FEDERAL EMERGENCY MANAGEMENT AGENCY WAYNE COUNTY, OH AND INCORPORATED AREAS	FLOOD PROFILES KILLBUCK CREEK



09P	FEDERAL EMERGENCY MANAGEMENT AGENCY WAYNE COUNTY, OH AND INCORPORATED AREAS	FLOOD PROFILES LITTLE KILLBUCK CREEK



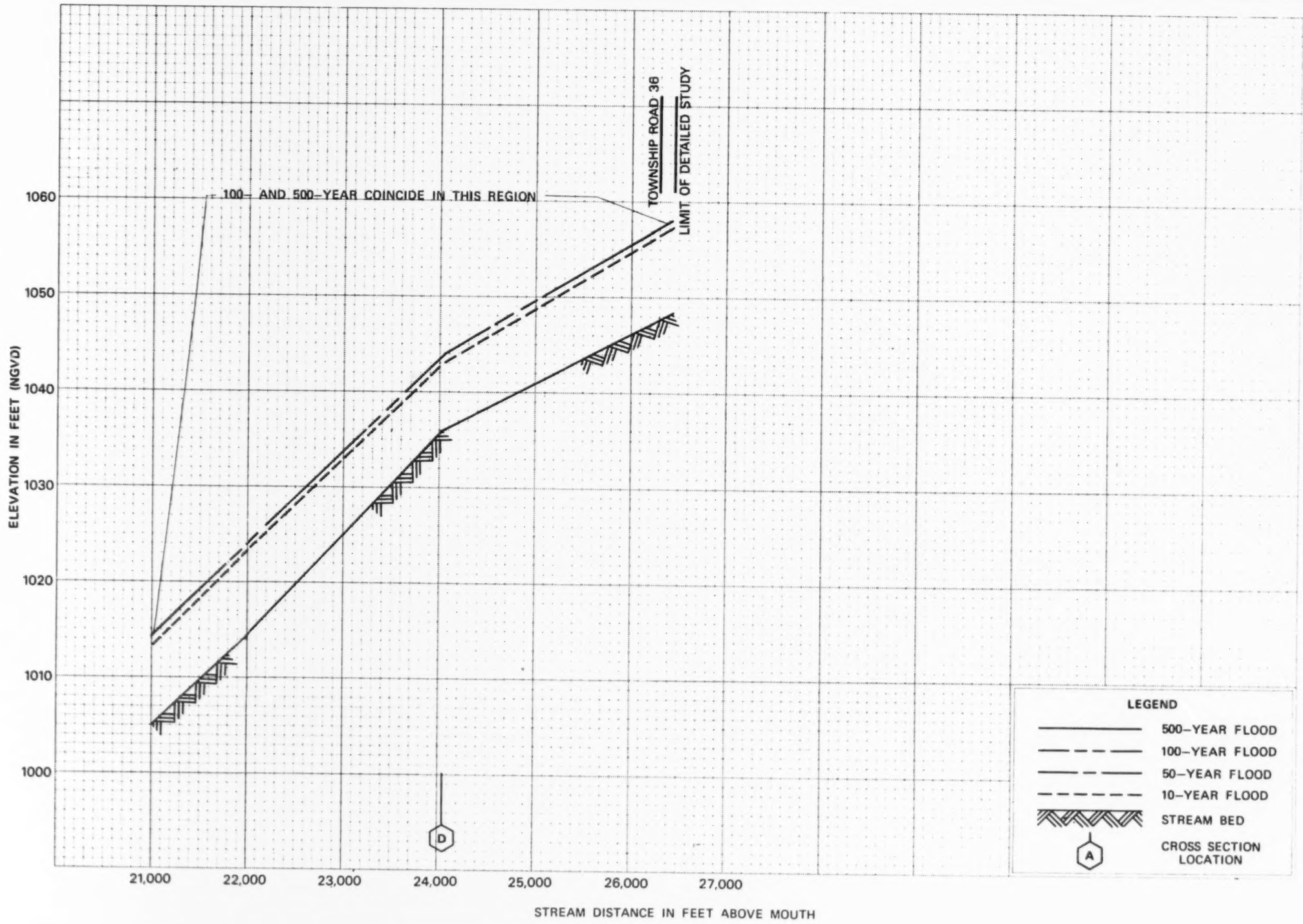
FLOOD PROFILES

LITTLE KILLBUCK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

WAYNE COUNTY, OH
AND INCORPORATED AREAS

10P



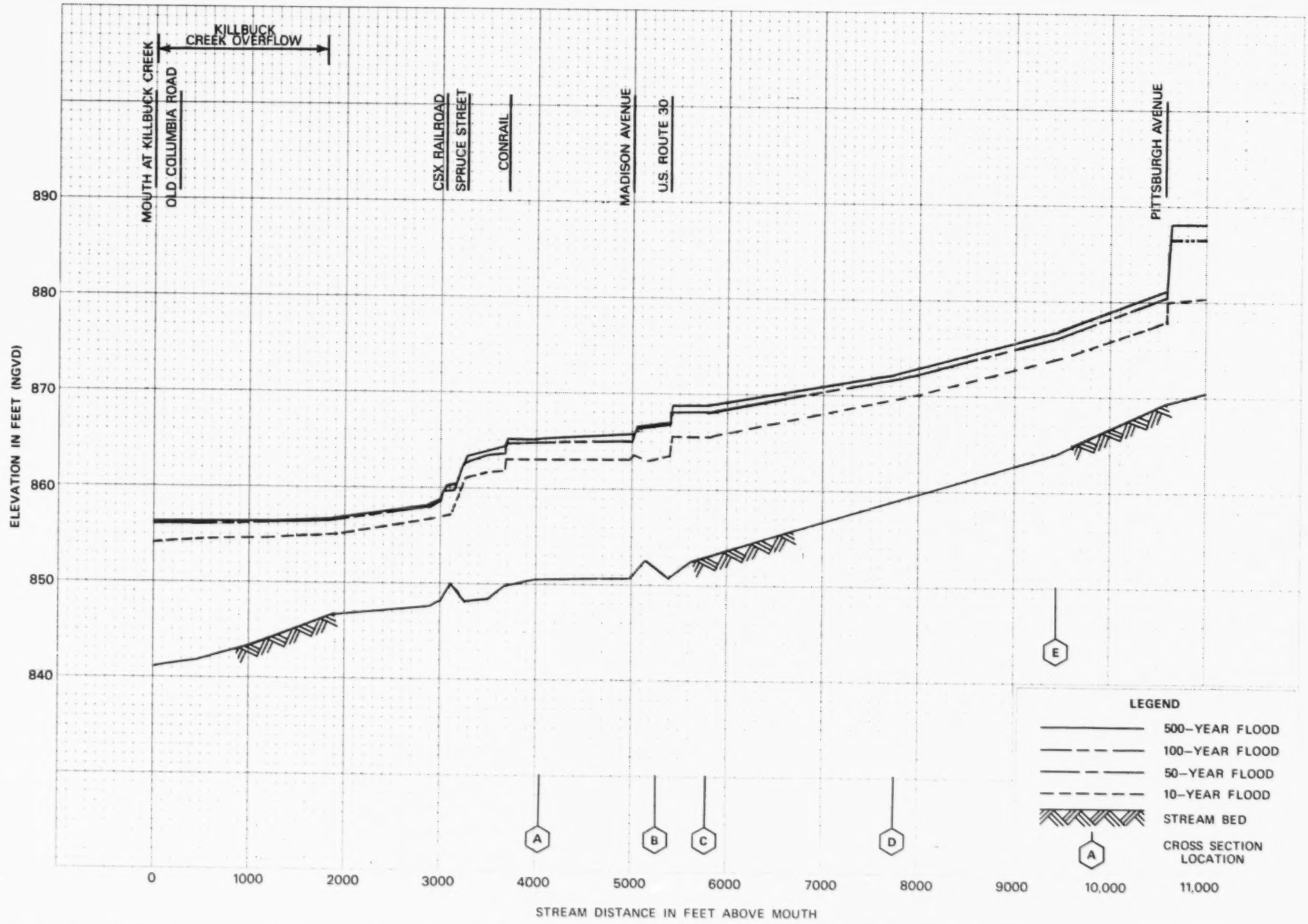
FLOOD PROFILES

LITTLE KILLBUCK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

WAYNE COUNTY, OH
AND INCORPORATED AREAS

11P



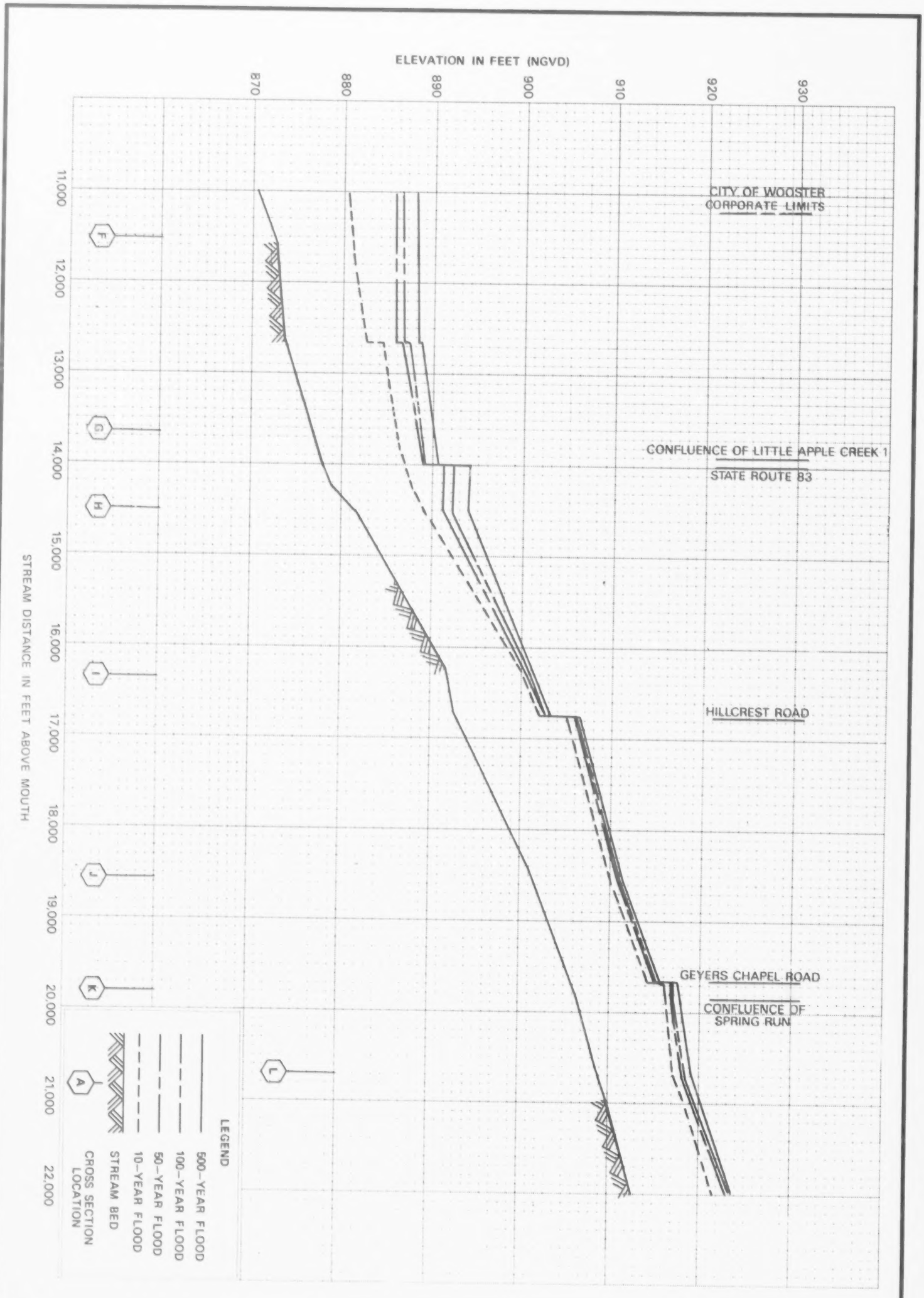
FLOOD PROFILES

APPLE CREEK

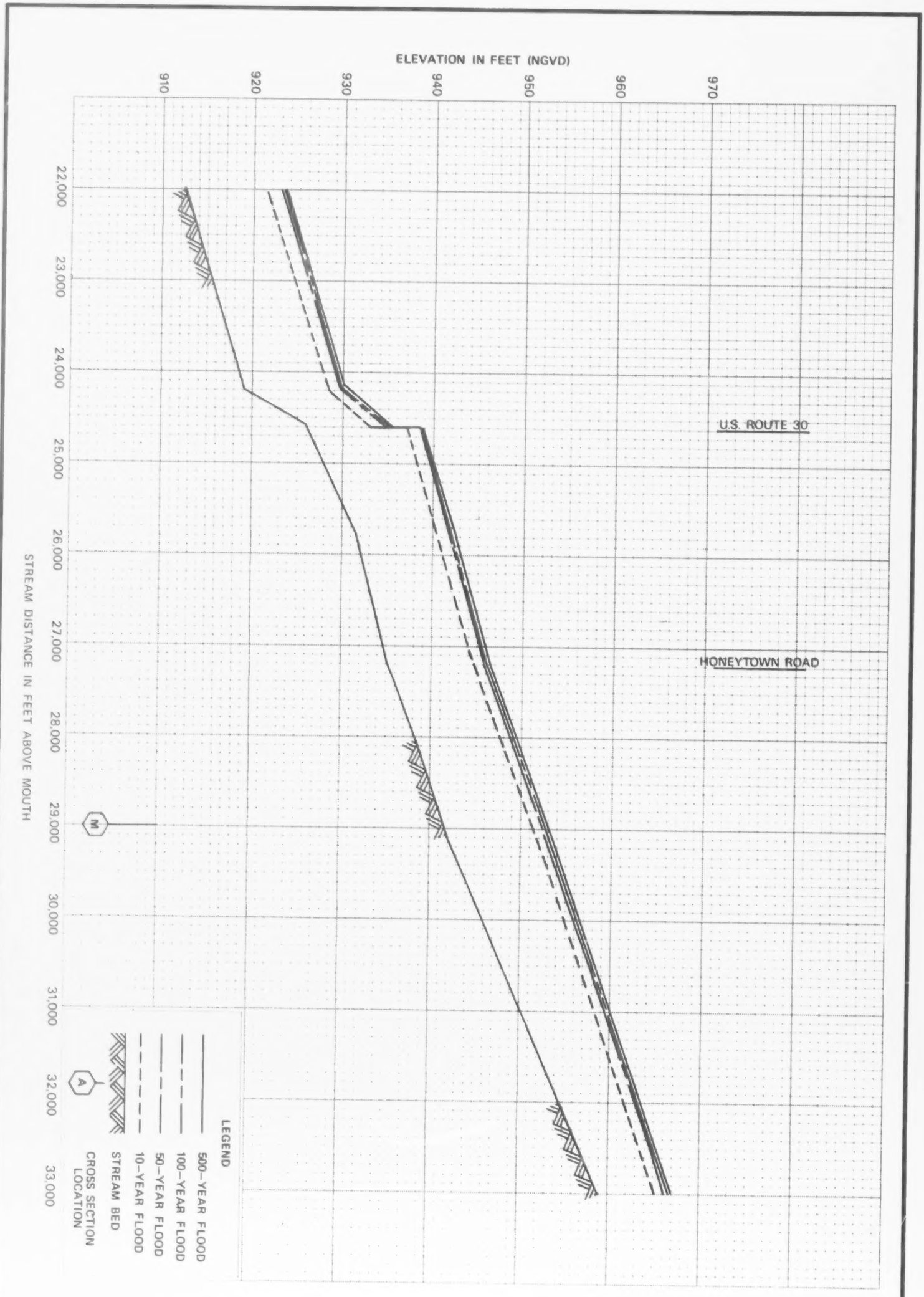
FEDERAL EMERGENCY MANAGEMENT AGENCY

WAYNE COUNTY, OH
AND INCORPORATED AREAS

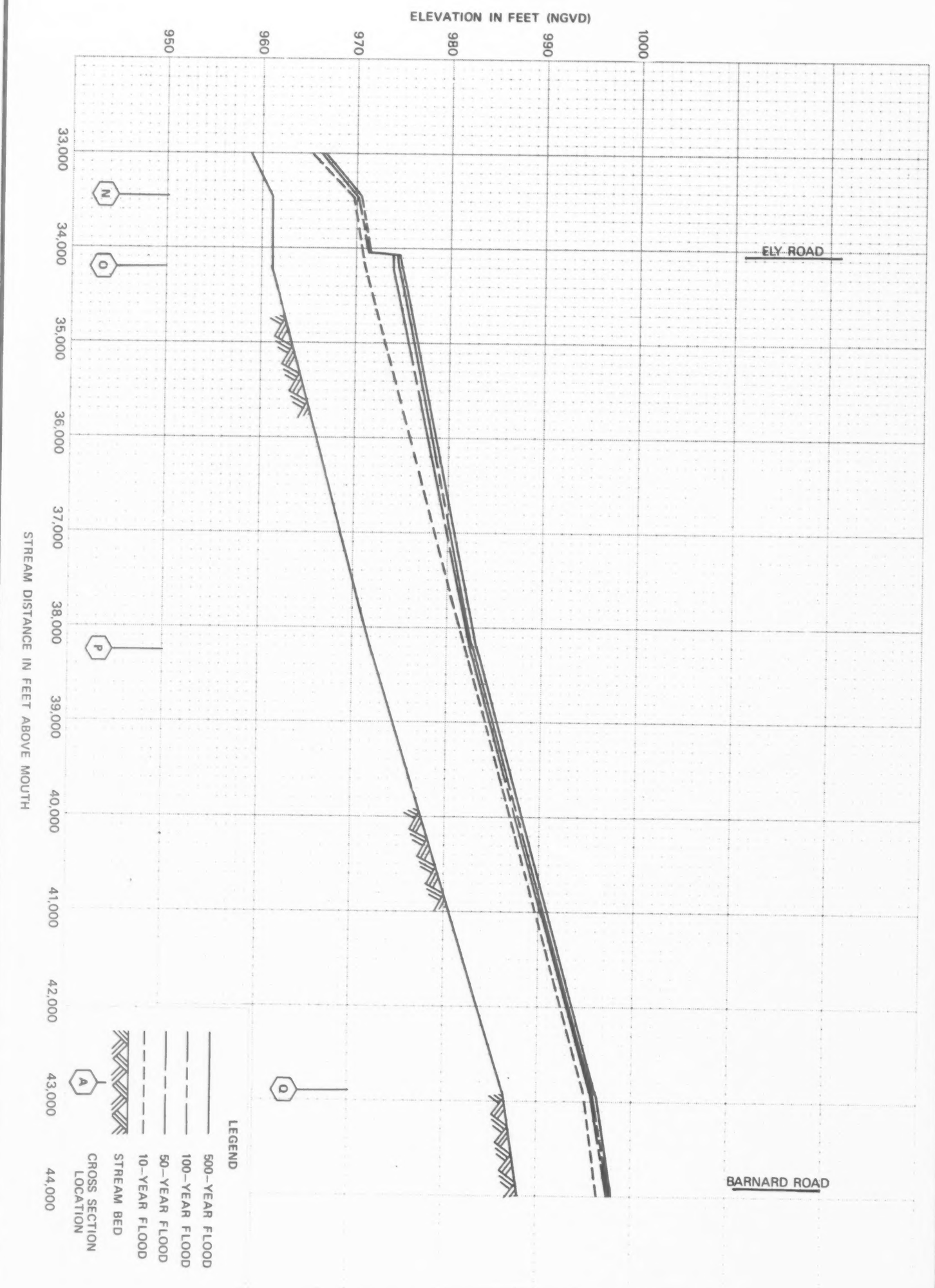
12P



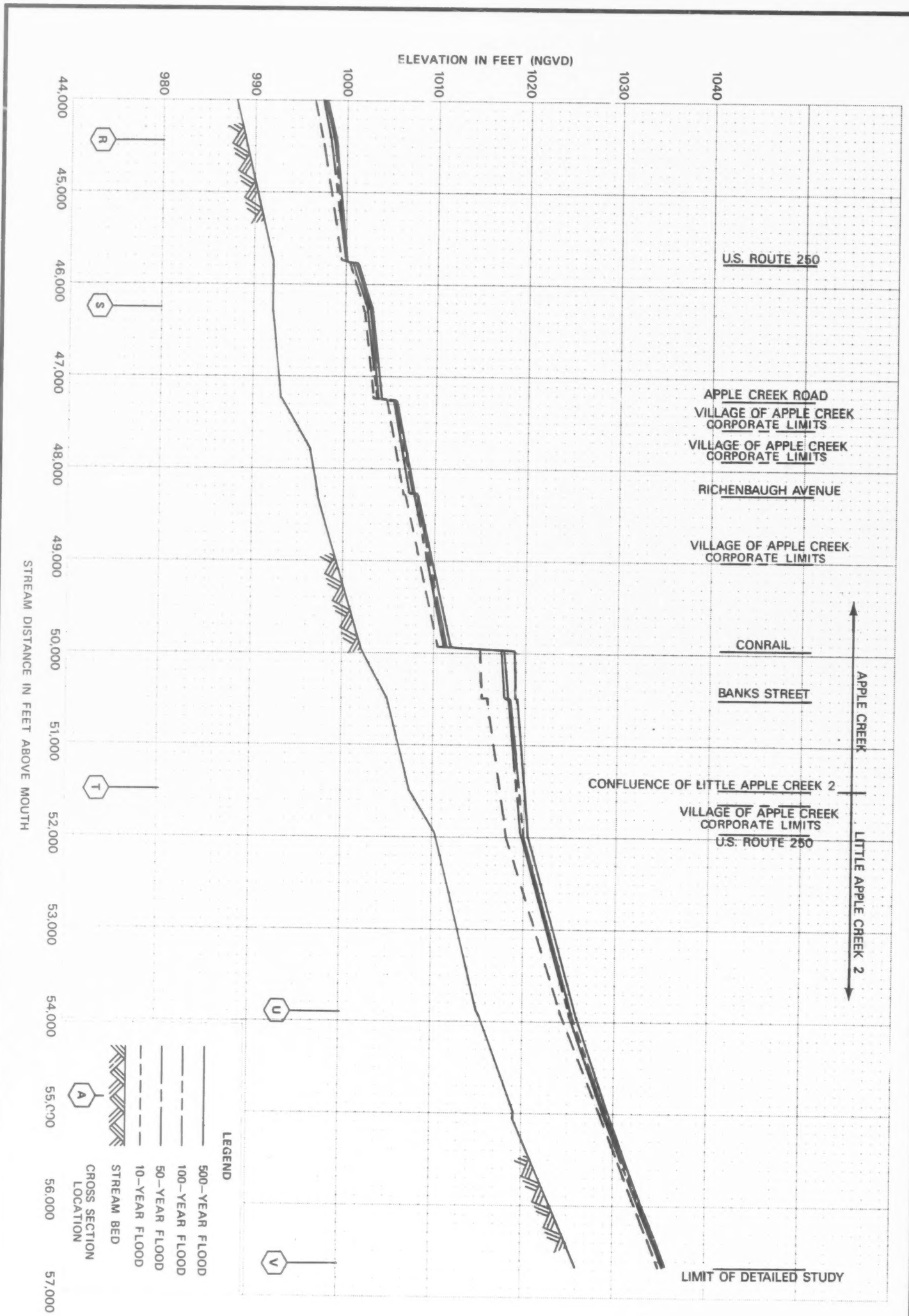
13P	FEDERAL EMERGENCY MANAGEMENT AGENCY WAYNE COUNTY, OH AND INCORPORATED AREAS	FLOOD PROFILES APPLE CREEK



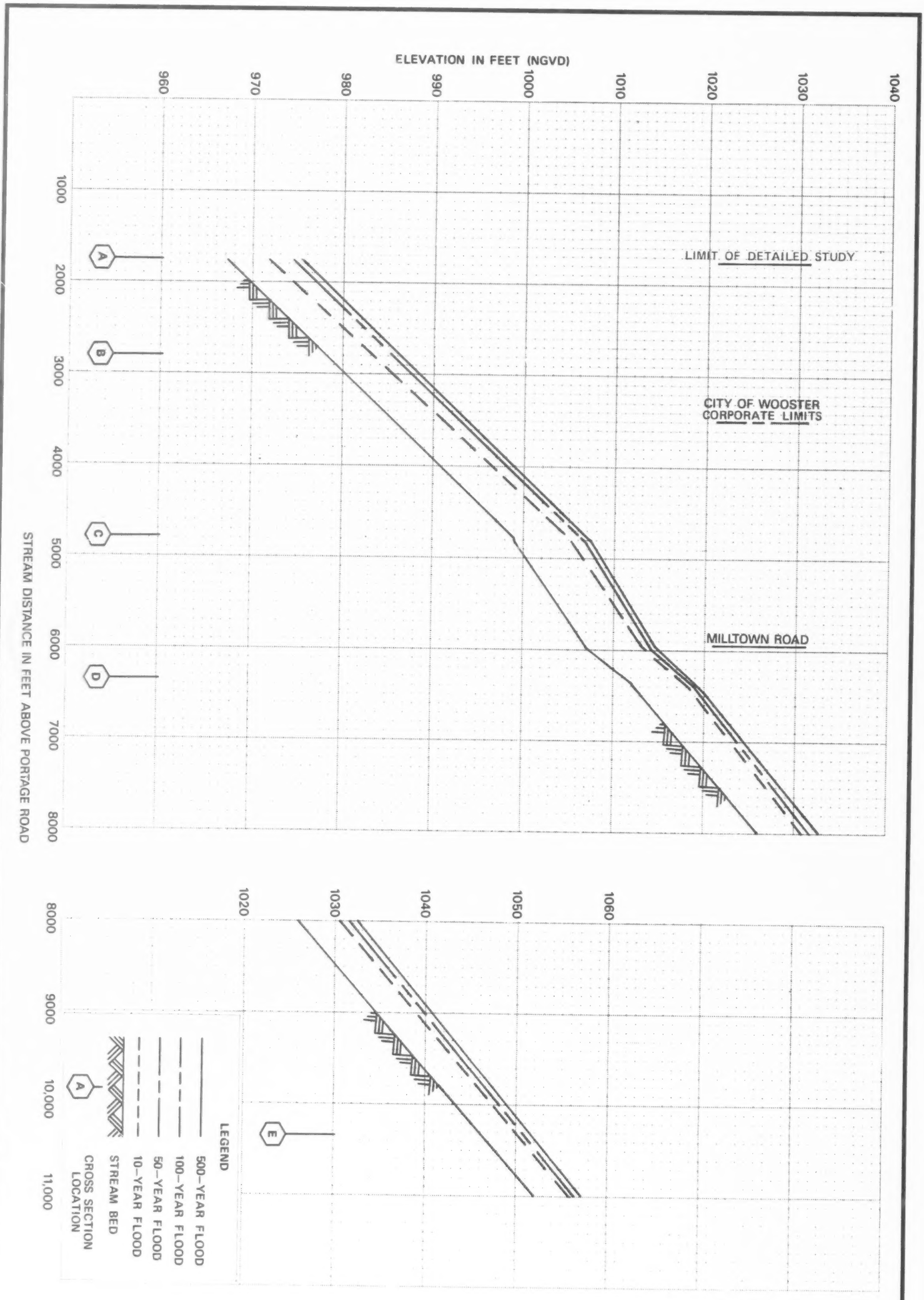
14P	FEDERAL EMERGENCY MANAGEMENT AGENCY WAYNE COUNTY, OH AND INCORPORATED AREAS	FLOOD PROFILES APPLE CREEK



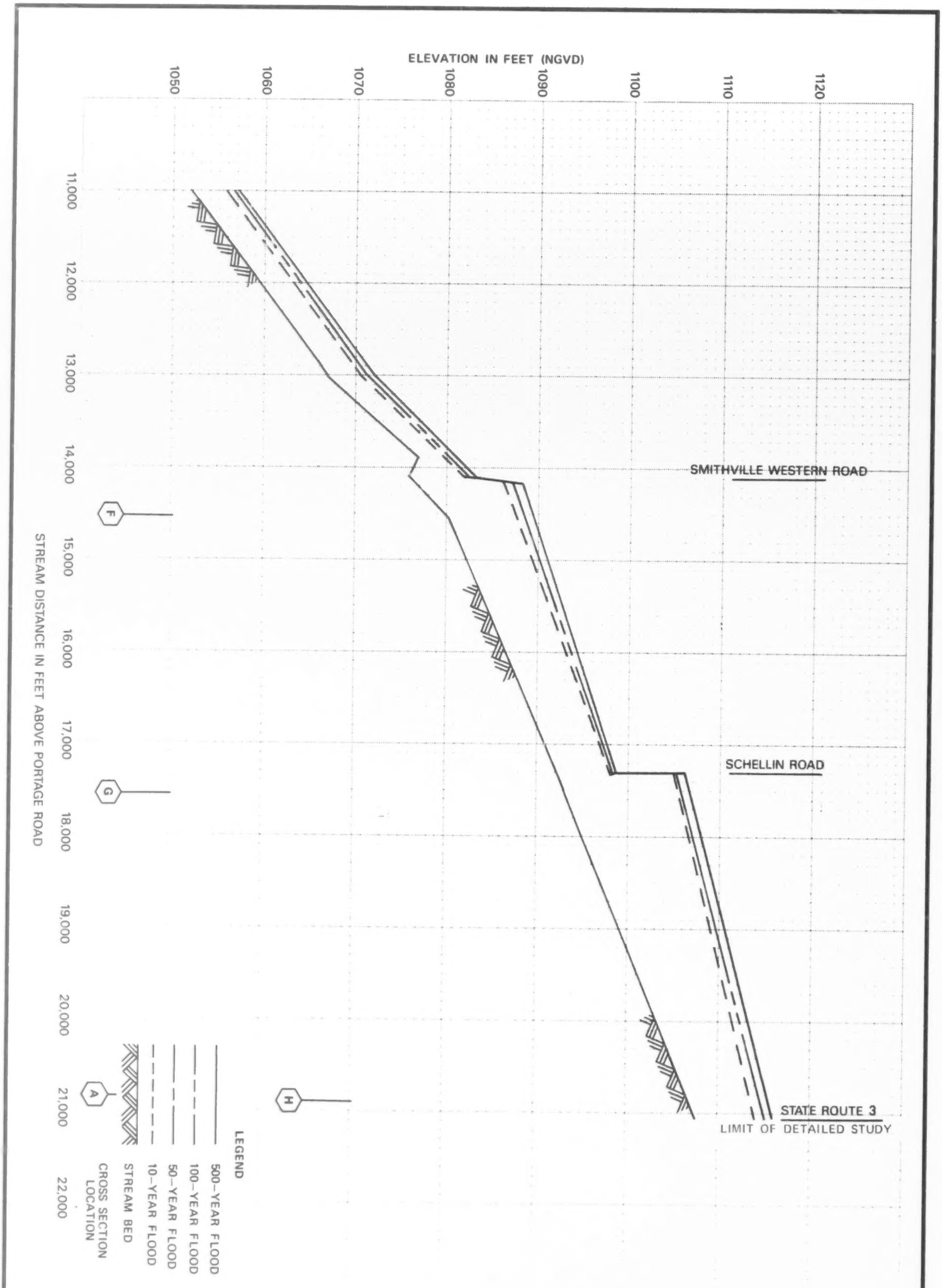
15P	FEDERAL EMERGENCY MANAGEMENT AGENCY WAYNE COUNTY, OH AND INCORPORATED AREAS	FLOOD PROFILES APPLE CREEK



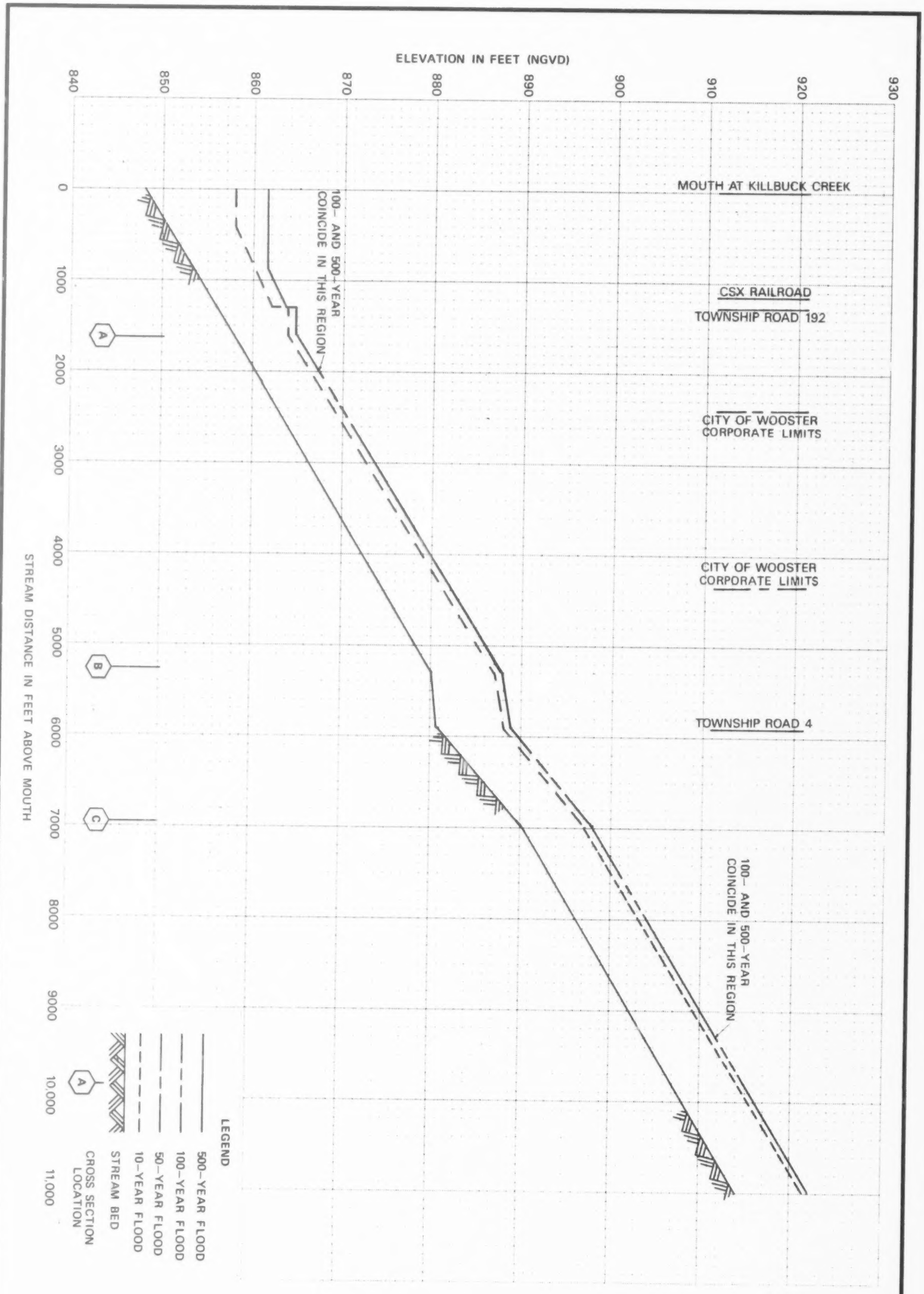
16P	FEDERAL EMERGENCY MANAGEMENT AGENCY WAYNE COUNTY, OH AND INCORPORATED AREAS	FLOOD PROFILES APPLE CREEK/LITTLE APPLE CREEK 2



17P	FEDERAL EMERGENCY MANAGEMENT AGENCY WAYNE COUNTY, OH AND INCORPORATED AREAS	FLOOD PROFILES LITTLE APPLE CREEK 1



18P	FEDERAL EMERGENCY MANAGEMENT AGENCY WAYNE COUNTY, OH AND INCORPORATED AREAS	FLOOD PROFILES LITTLE APPLE CREEK 1

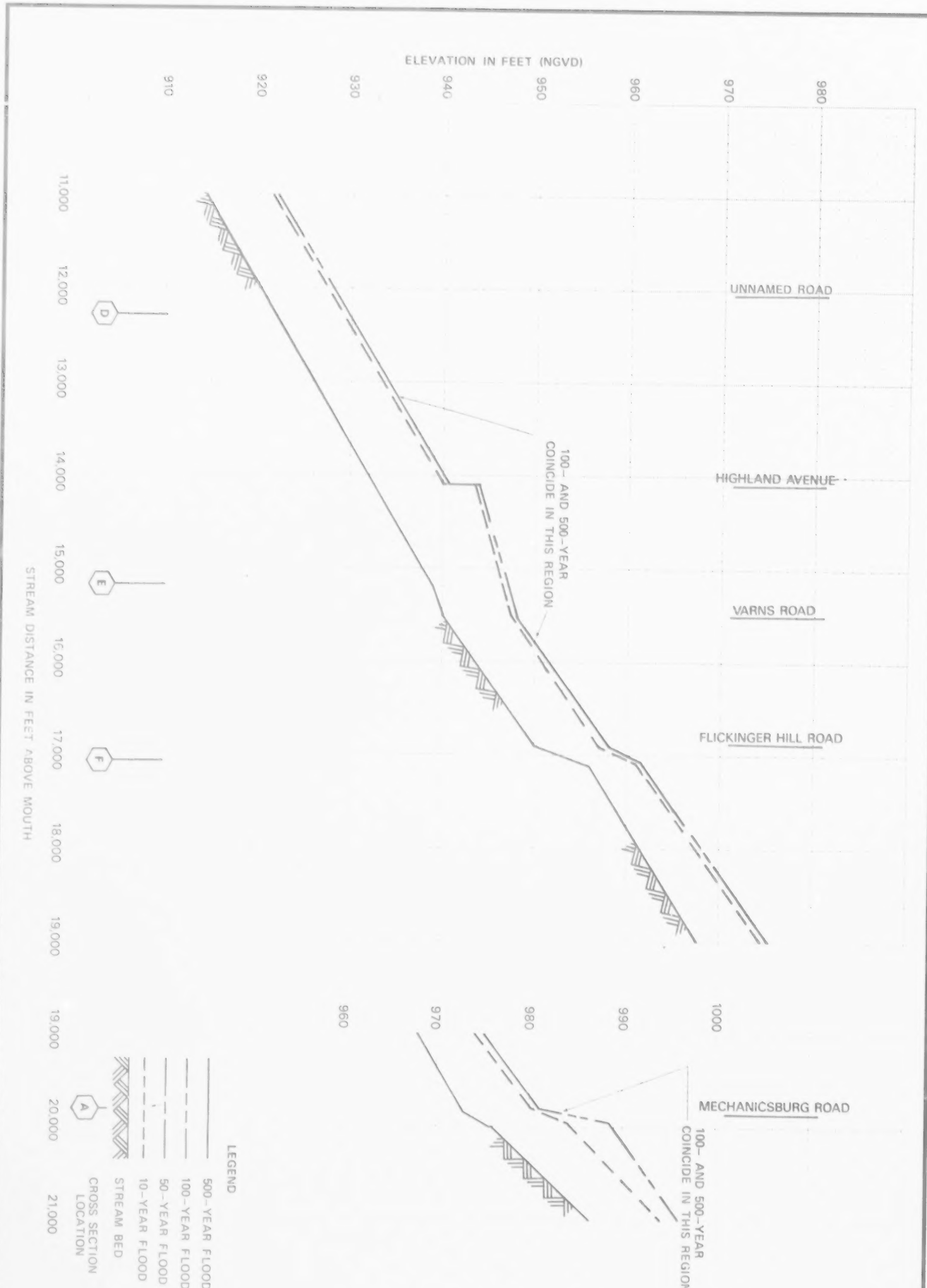


FEDERAL EMERGENCY MANAGEMENT AGENCY

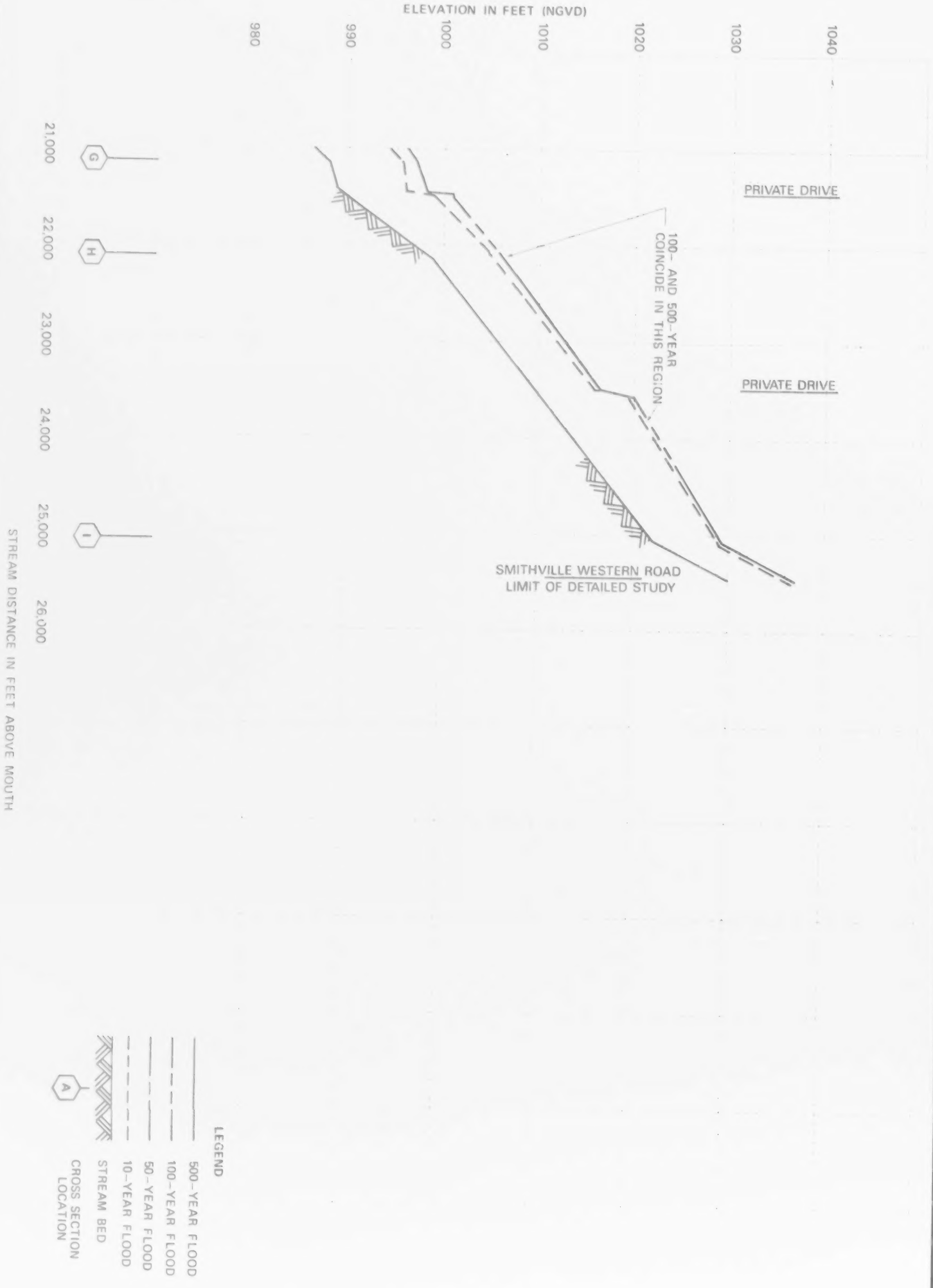
WAYNE COUNTY, OH
AND INCORPORATED AREAS

FLOOD PROFILES

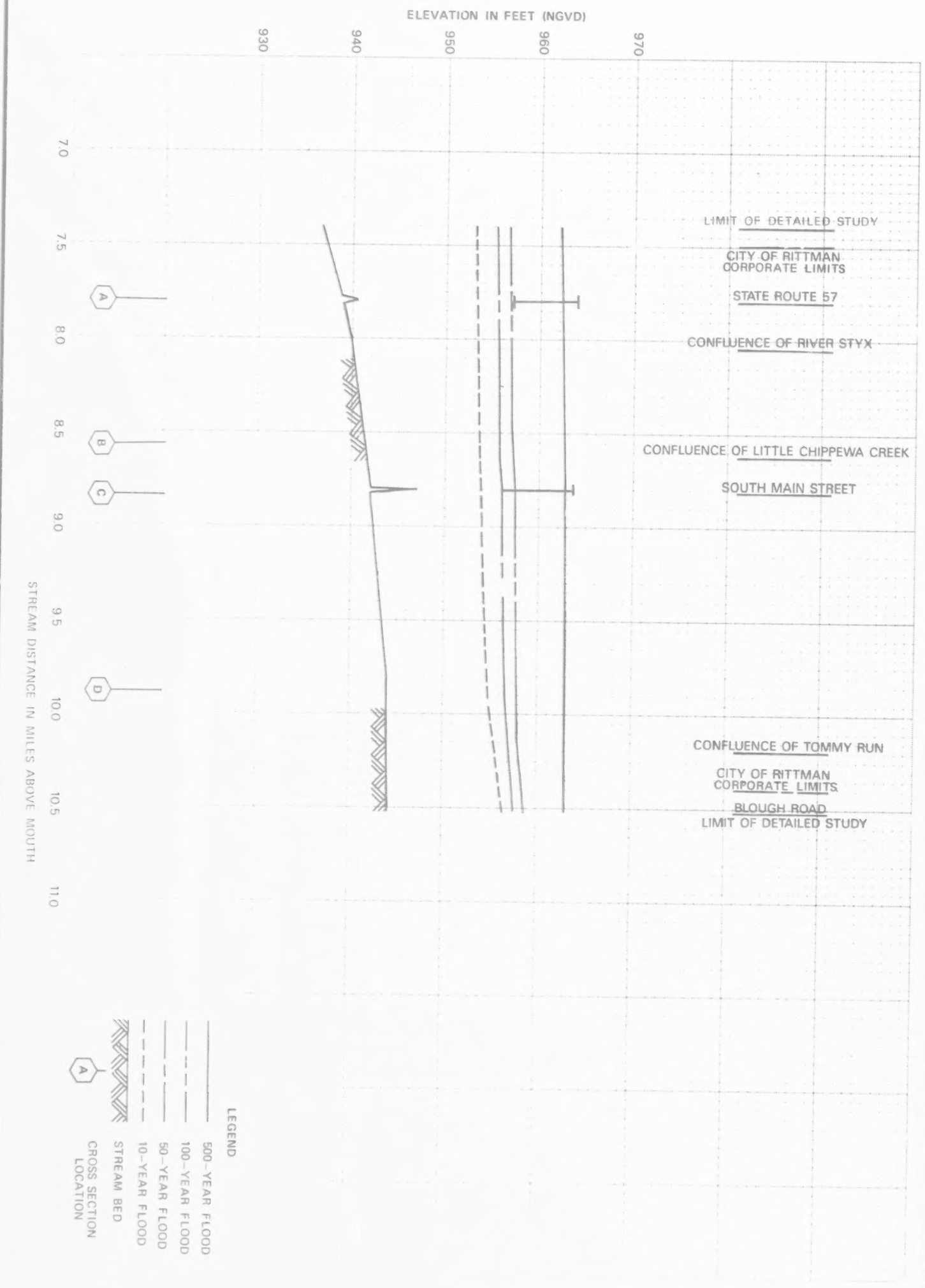
CLEAR CREEK



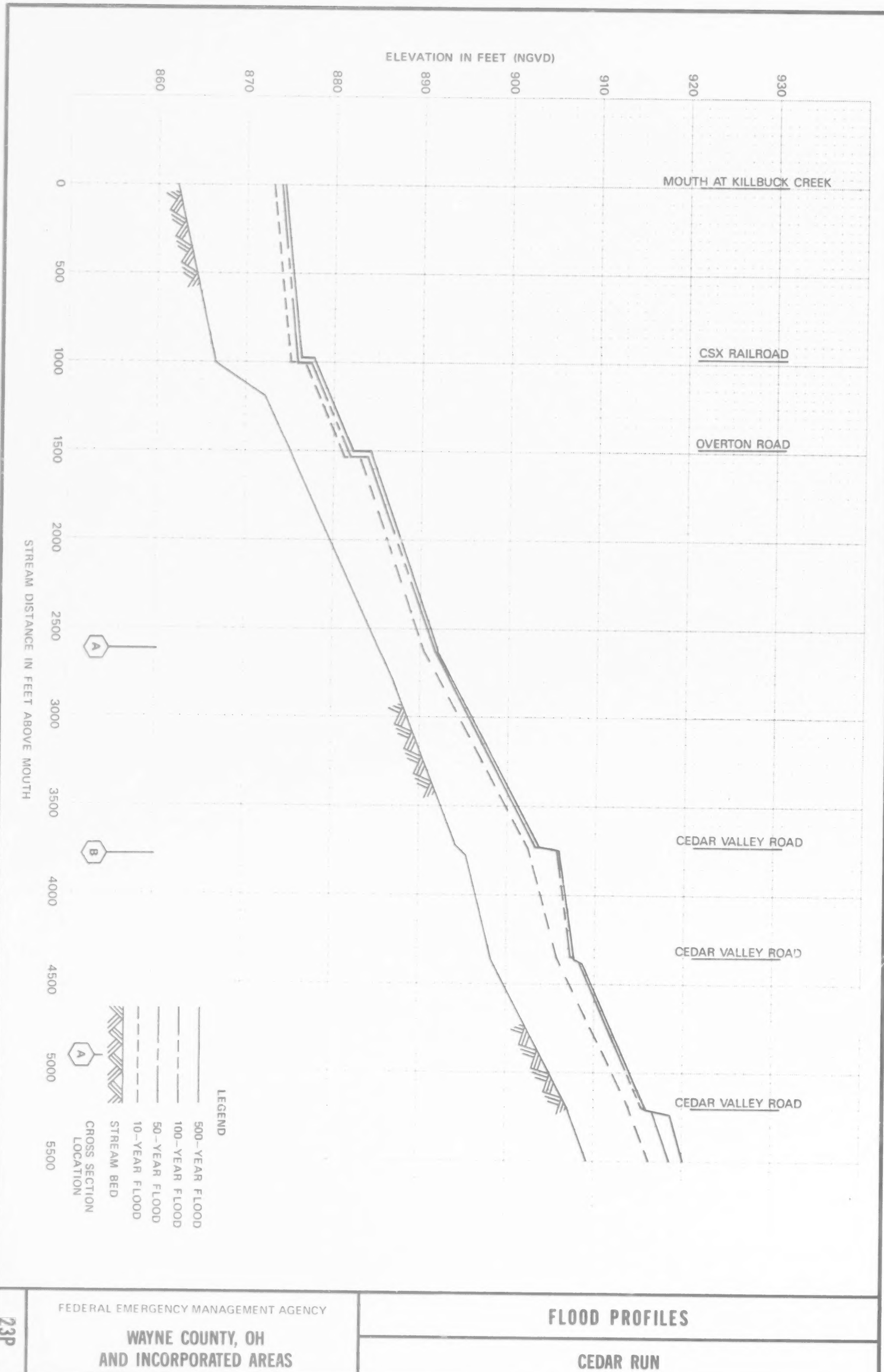
20P	FEDERAL EMERGENCY MANAGEMENT AGENCY WAYNE COUNTY, OH AND INCORPORATED AREAS	FLOOD PROFILES CLEAR CREEK



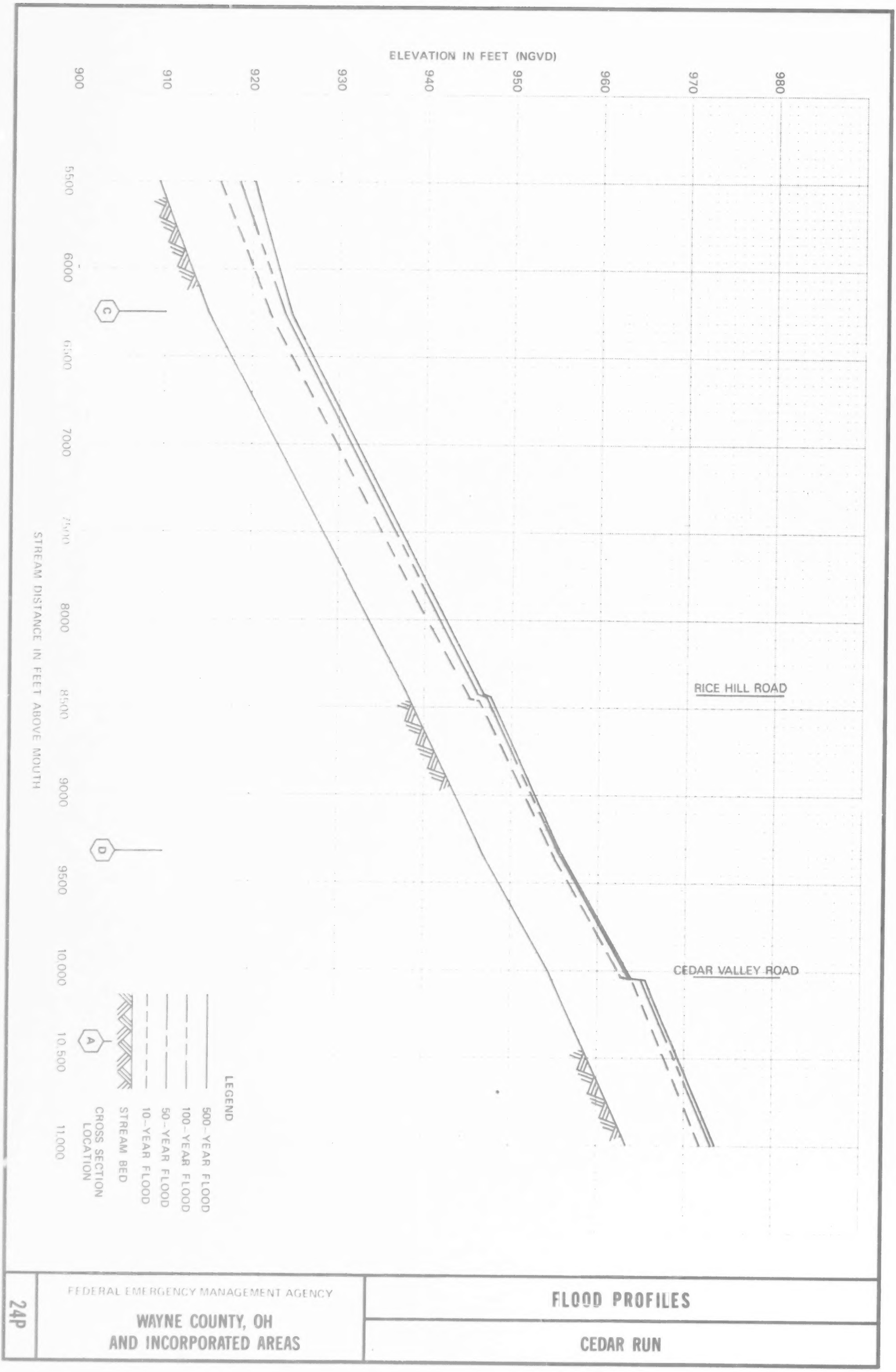
21P	FEDERAL EMERGENCY MANAGEMENT AGENCY WAYNE COUNTY, OH AND INCORPORATED AREAS	FLOOD PROFILES CLEAR CREEK



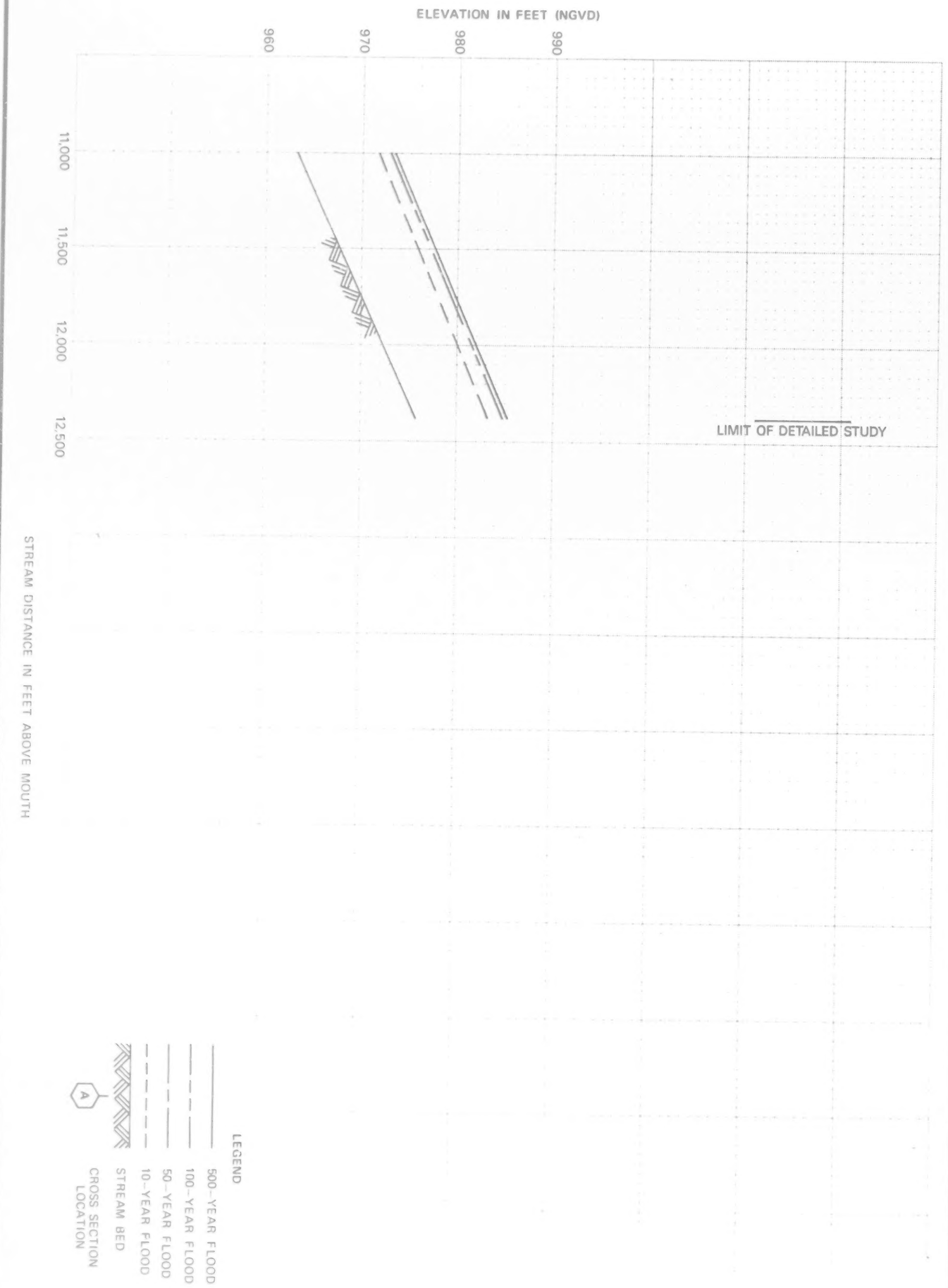
22P	FEDERAL EMERGENCY MANAGEMENT AGENCY WAYNE COUNTY, OH AND INCORPORATED AREAS	FLOOD PROFILES CHIPPEWA CREEK



23P	FEDERAL EMERGENCY MANAGEMENT AGENCY WAYNE COUNTY, OH AND INCORPORATED AREAS	FLOOD PROFILES CEDAR RUN



24P	FEDERAL EMERGENCY MANAGEMENT AGENCY WAYNE COUNTY, OH AND INCORPORATED AREAS	FLOOD PROFILES CEDAR RUN

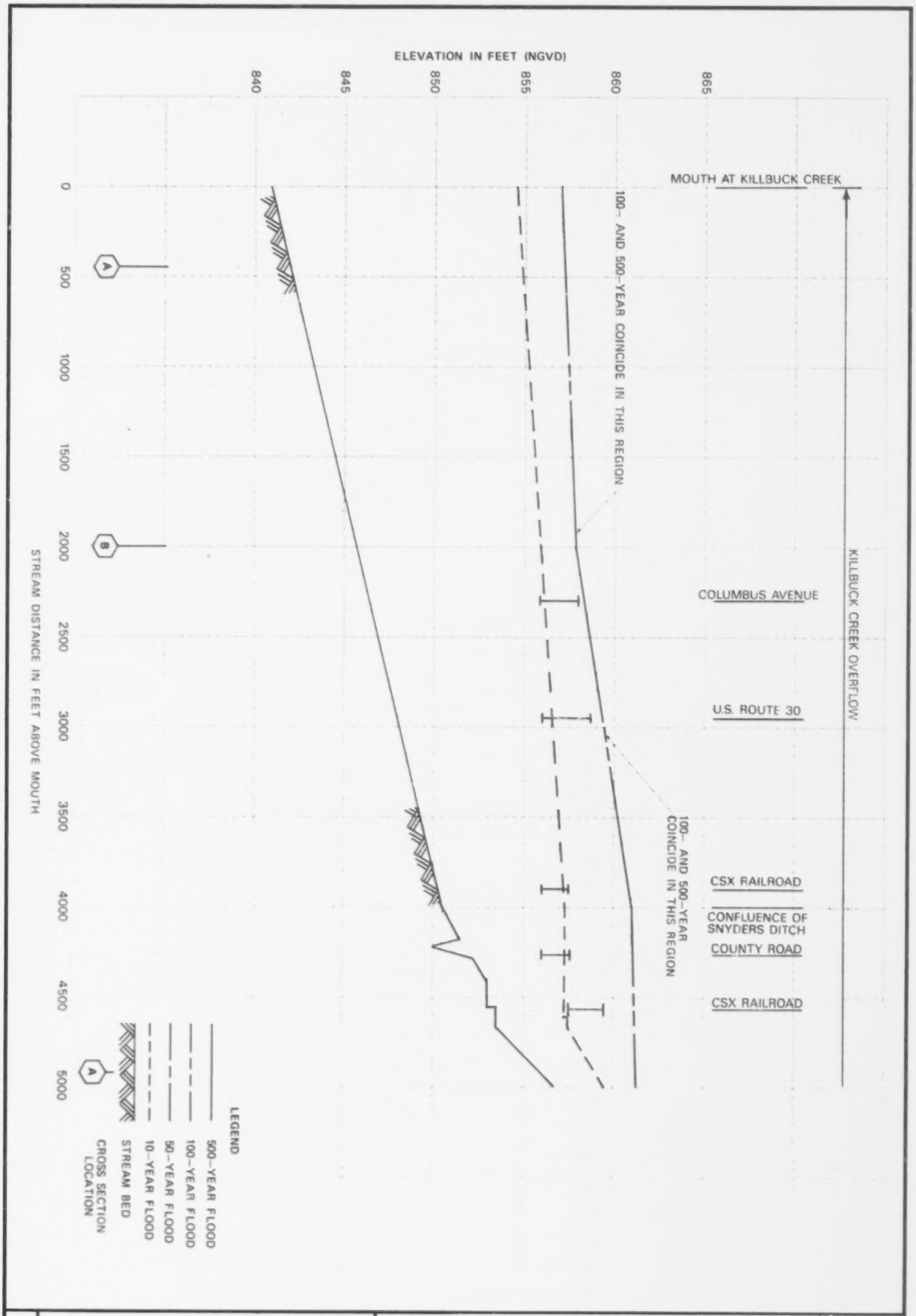


FEDERAL EMERGENCY MANAGEMENT AGENCY

WAYNE COUNTY, OH
AND INCORPORATED AREAS

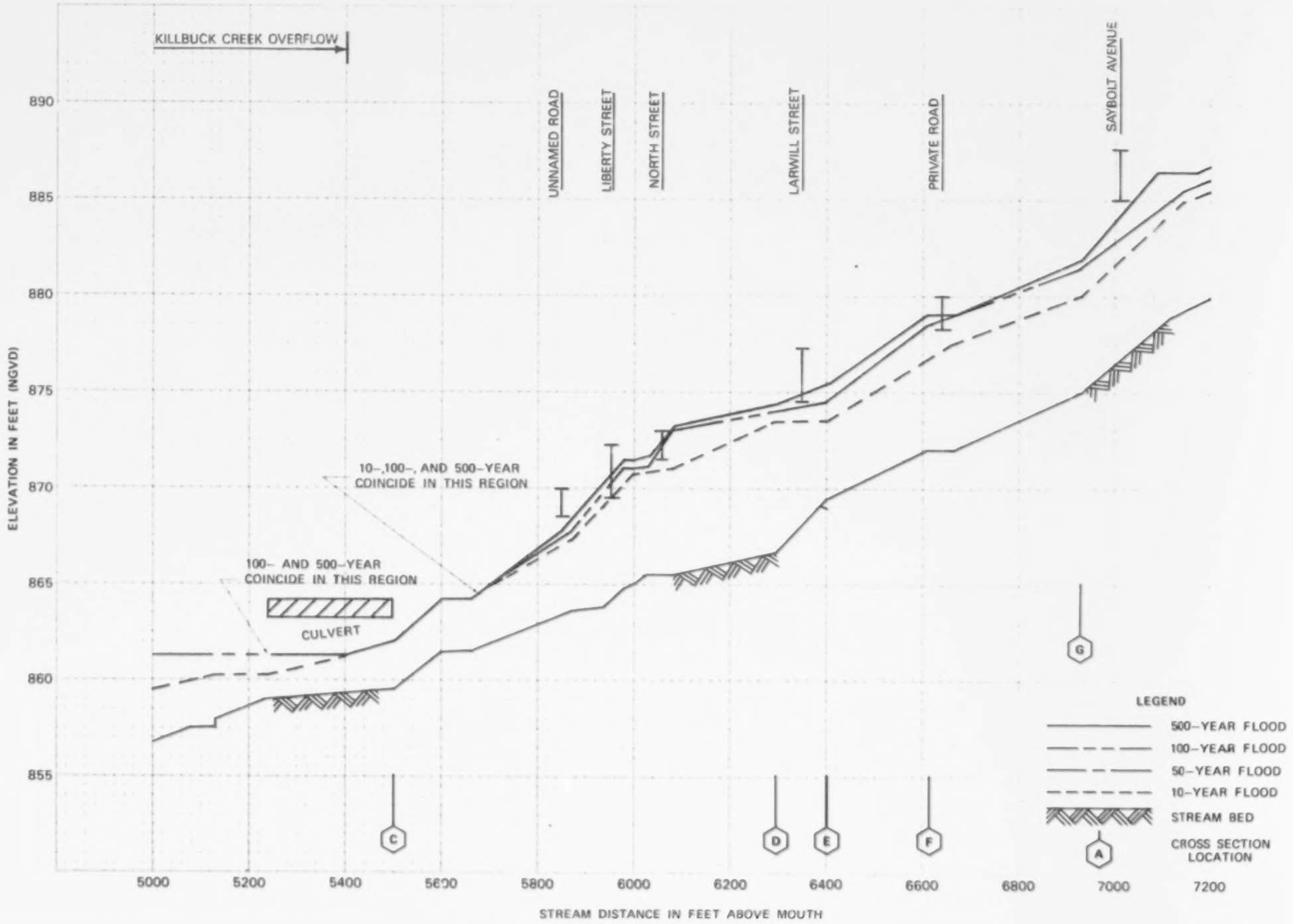
FLOOD PROFILES

CEDAR RUN



26P	FEDERAL EMERGENCY MANAGEMENT AGENCY **WAYNE COUNTY, OH AND INCORPORATED AREAS**	**FLOOD PROFILES** **CHRISTMAS RUN**

55



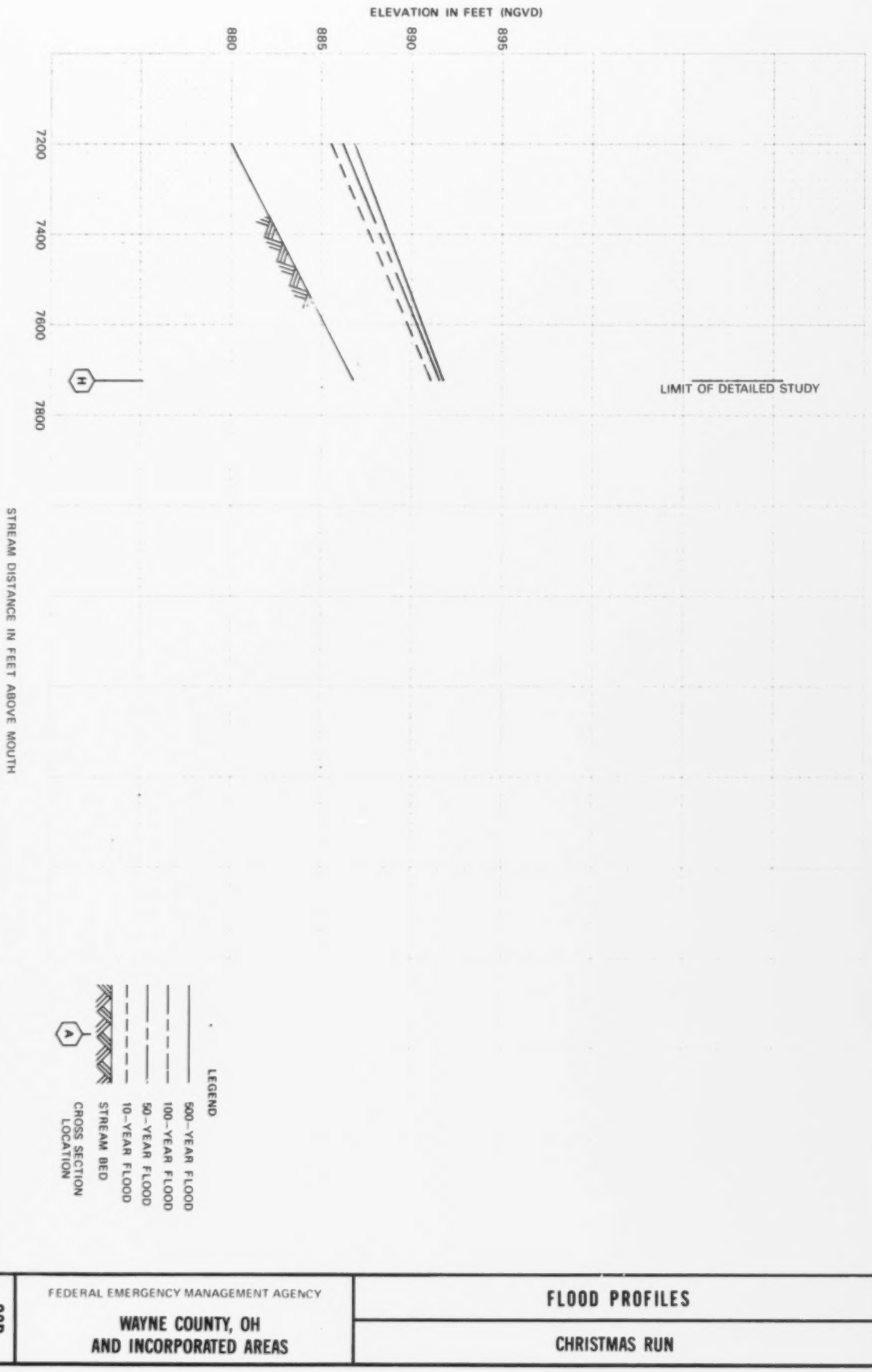
FLOOD PROFILES

CHRISTMAS RUN

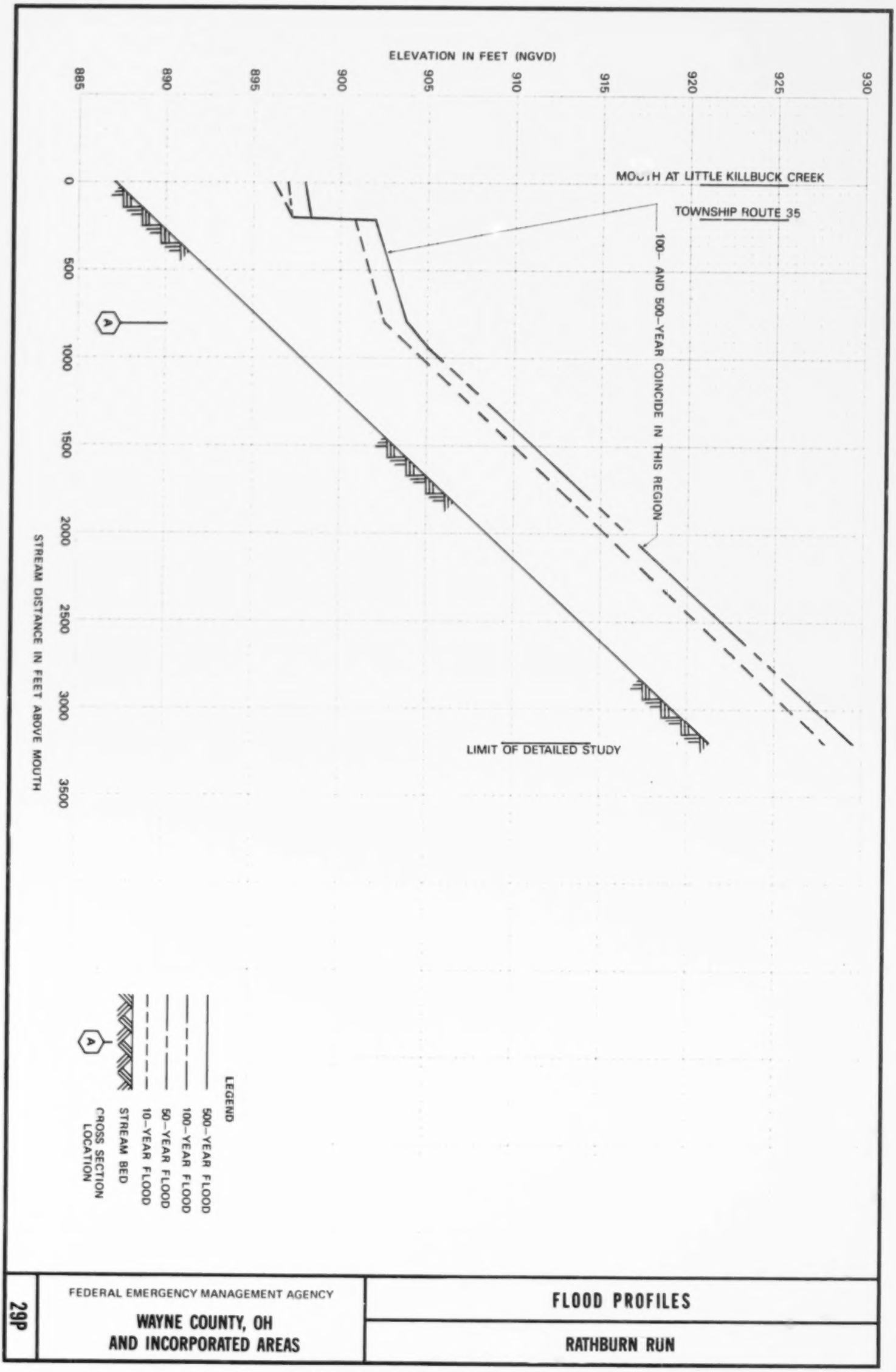
FEDERAL EMERGENCY MANAGEMENT AGENCY

WAYNE COUNTY, OH AND INCORPORATED AREAS

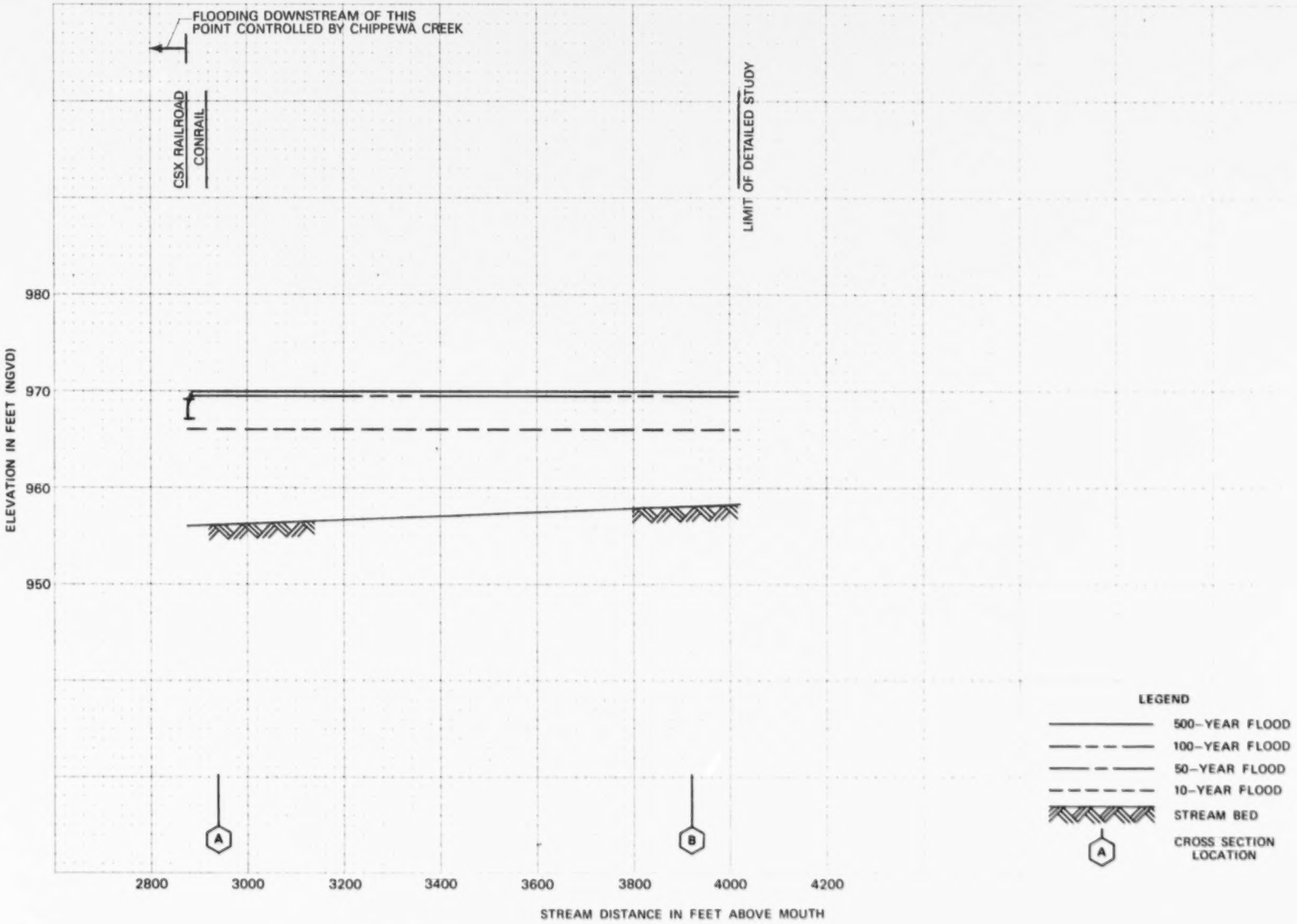
27P



28P	FEDERAL EMERGENCY MANAGEMENT AGENCY WAYNE COUNTY, OH AND INCORPORATED AREAS	FLOOD PROFILES CHRISTMAS RUN



29P	FEDERAL EMERGENCY MANAGEMENT AGENCY **WAYNE COUNTY, OH AND INCORPORATED AREAS**	**FLOOD PROFILES** **RATHBURN RUN**



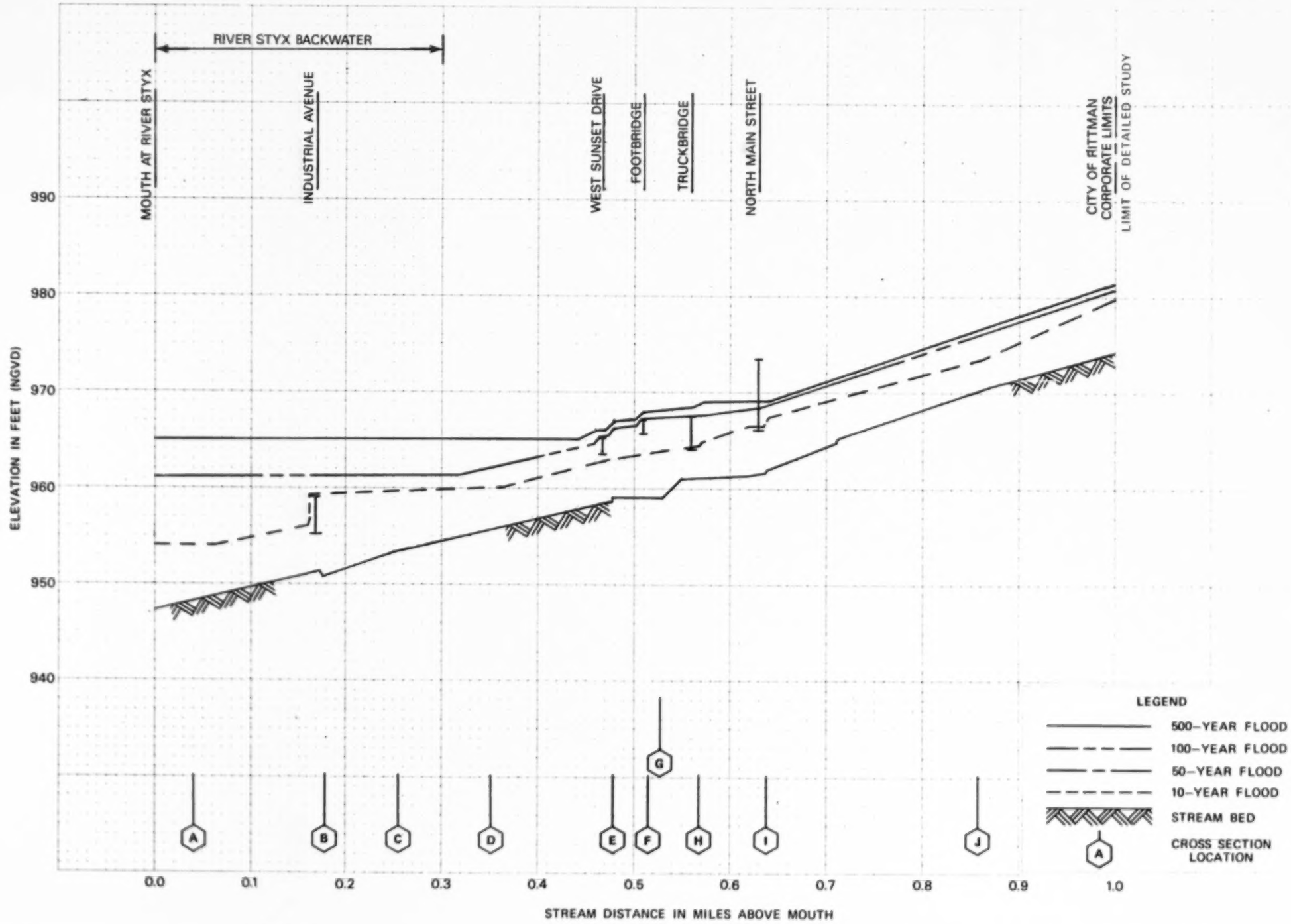
FLOOD PROFILES

TOMMY RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY

WAYNE COUNTY, OH
AND INCORPORATED AREAS

30P



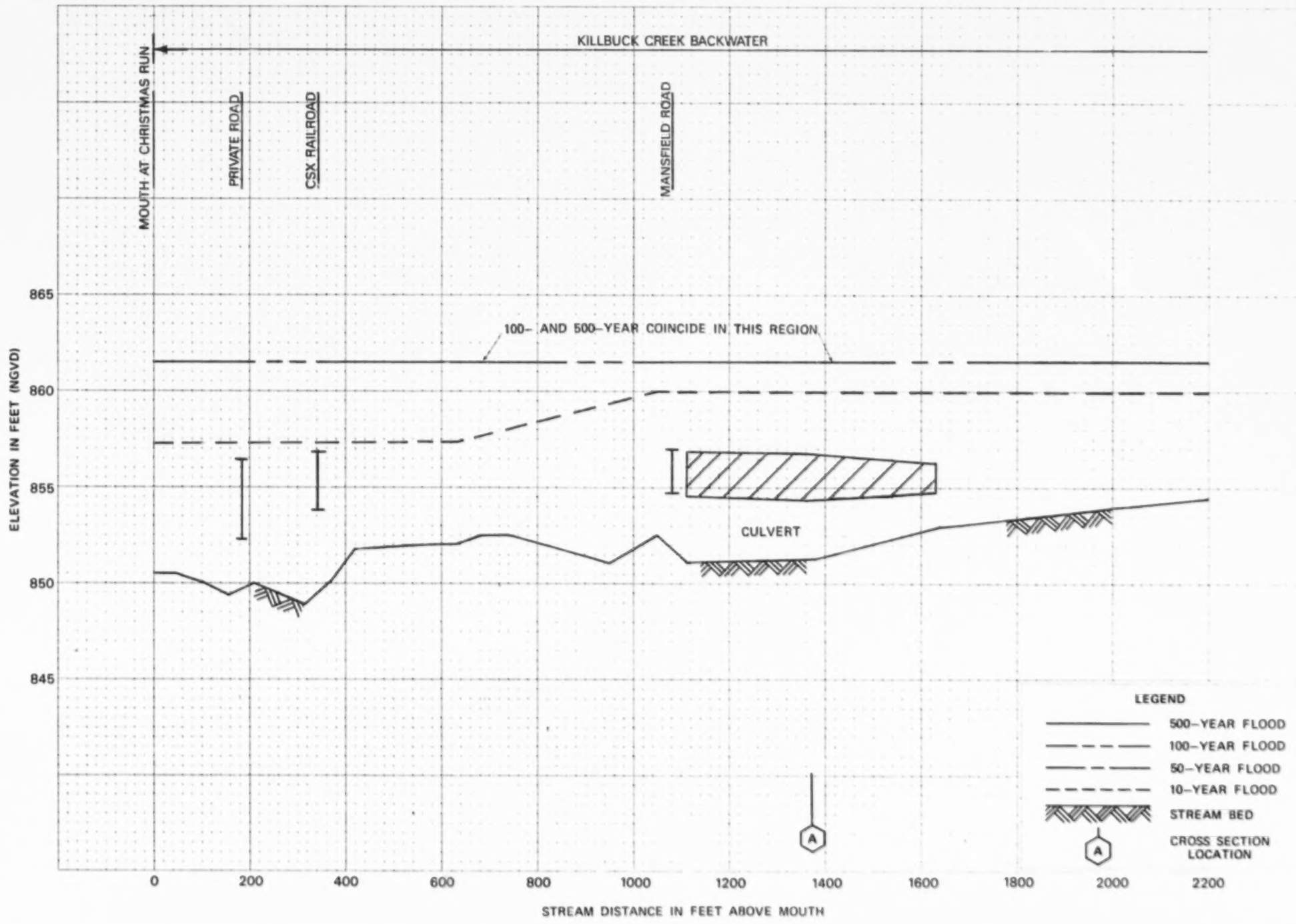
FLOOD PROFILES

LANDIS DITCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

WAYNE COUNTY, OH
AND INCORPORATED AREAS

31P



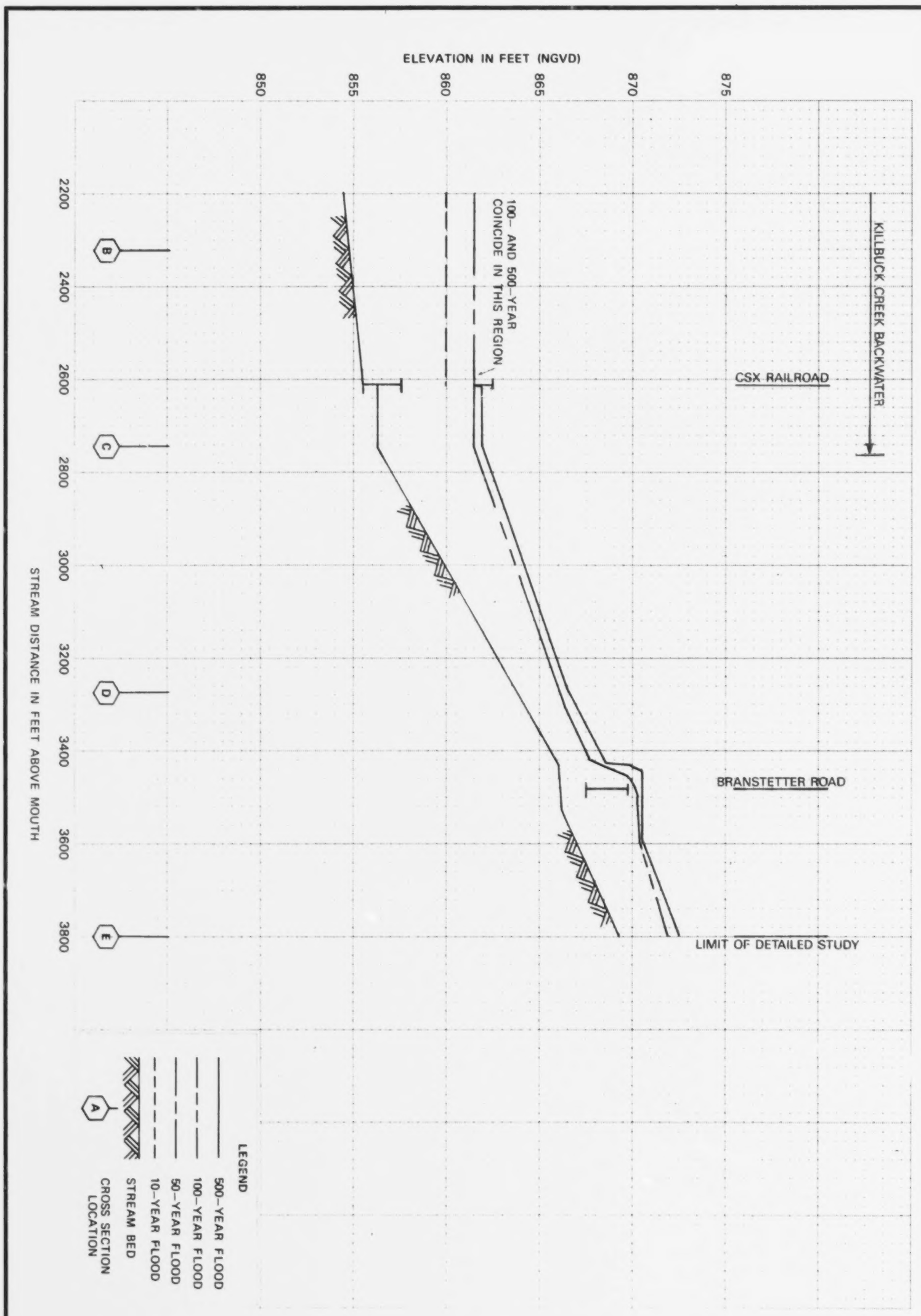
FLOOD PROFILES

SNYDERS DITCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

WAYNE COUNTY, OH
AND INCORPORATED AREAS

32P



33P	FEDERAL EMERGENCY MANAGEMENT AGENCY **WAYNE COUNTY, OH AND INCORPORATED AREAS**	**FLOOD PROFILES** **SNYDERS DITCH**